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THE PRACTITIONER:

A Monthly Journal

OF

THERAPEUTICS.

EDITED BY

FRANCIS E. ANSTIE, M.D. F.R.C.P.

Senior Assistant Physician to Westminster Hospital, Lecturer on
Materia Medica in Westminster Hospital School; and
Physician to the Belgrave Hospital for Children.

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Original Communications.

ON THE MODE OF ACTION AND THE USE OF BELLADONNA IN THE TREATMENT OF ASTHMA.

BY M. LE DR. SEÉ,

Clinical Professor at the Hôpital de la Charité, Paris; Professor of Therapeutics to the Faculty.

THE remedies which are especially efficacious in the treatment of asthma are the *vascular* and *cardiac* agents; *i.e.* those which act either on the heart or on the muscular coat of the vessels; and among them we find three which have been principally applied to the treatment of this disease—belladonna, datura, and hyoscyamus.

Belladonna causes contraction of the muscular fibres of the arteries in such a way as to stimulate the flow of blood in the organs, and assist the functions of the latter, while other vascular remedies, which also affect the muscular coats of the vessels, act in a different manner; *e.g.* nicotine produces a lasting spasm, which only gives place to dilatation when the muscle has become tired out. Bromide of potassium causes a permanent contraction, and produces anæmia of the organs, while belladonna produces the opposite state—active congestion.

phorus at so low a degree of oxidation that it will ignite and burn at a moderate heat just as pure phosphorus would do.

Solid phosphorus, given in as small a dose as 1½ grain, acts as a poison, death seeming to take place in a gradual and painless way, with perfect retention of consciousness. There may be some vomiting, and the substances ejected appear luminous in the dark, as also does the stomach itself after death, when cut open in a dark place; but it is rare to find any marked inflammation of this organ: in the case of a bird poisoned by eating several grains of phosphorus, I could find scarcely a trace of inflammation anywhere in the digestive tract. In a case recorded by Casper, where a dose of 3 grains of phosphorus proved fatal to a lady in twelve hours, the body after death presented the extraordinary phenomenon of luminous vapour issuing from each of its outlets.

Analysis of the various tissues of animals poisoned by phosphorus has demonstrated the presence of phosphoric acid in unusual amount: this arises from the oxidation of the phosphorus in the body. Phosphoric acid is also increased in the urine of those who have taken any preparation of phosphorus. The action of phosphorus as a poison appears not to be due to any direct action on the nervous system, but to its preventing the assimilation of oxygen by the constituents of the blood; by thus checking oxidation it may cause the fatty degeneration of the liver so often met with in those who have been poisoned by phosphorus, and which is doubtless connected with the symptoms of severe icterus often seen in the patients before death.

For medicinal use there are solutions of phosphorus in ether and also in almond oil. One fluid ounce of ether will dissolve, after long digestion, 4 grains of phosphorus, and the oily solution is in the same proportion. The most recent formula for the phosphorated oil is that of the French Codex, for which I am indebted to Mr. C. Savory; it is as follows:—

Form from French Codex for Phosphorated Oil.

Phosphorus, 2 grammes.
Oil of almonds, 100 grammes.

The oil is gently warmed with the phosphorus for about twenty minutes in a flask that is almost closed to exclude the air; when cool the oil is decanted off from the undissolved phosphorus.

The oil, thus prepared, may be given in emulsion, or with cod-liver oil in a dose of from 3 to 8 drops, like the phosphorated oil of the Prussian Pharmacopœia, and is hardly less nauseous in flavour.

Another very useful preparation of phosphorus is a pill, made by melting finely-divided phosphorus with fat and then covering the pill with an impermeable coating.

Pills that I have seen and used, made by Messrs. Savory and Moore, contain $\frac{1}{40}$th of a grain of phosphorus in each pill. Both Dr. Radcliffe and Dr. Althaus speak favourably of the good effect of phosphorus, given thus in very small doses, as a valuable tonic in many chronic nervous maladies.

Some years ago the phosphorated oil was tried by Dr. Hughes Bennett in several cases of paralysis; but, though the dose was a full one, the medicine had not much perceptible effect beyond causing a great increase in the quantity of phosphoric acid excreted by the urine.

A further, and more recent, trial of phosphorated oil has been instituted by Delpech, of Paris, in cases of paralysis, and he has found reason to speak well of phosphorus as a useful medicine in these cases; it seems to invigorate the system and so act as a tonic. It was thus that Dr. Anstie found phosphorus to act beneficially[1] as a tonic in cases of epilepsy; over the actual fits the drug did not seem to have much power, but it relieved the languor and depression felt in the intervals of the fit in a very satisfactory way.

M. Tavignot, in France, has long been in the habit of using phosphorus in the form of a pill, containing $\frac{1}{70}$th of a grain, as a remedy in nervous, chlorotic, and strumous affections. In some neurotic and paralytic affections of the muscles of the eyeball, and of the lachrymal nerve, M. Tavignot has used liniments of phosphorated oil with advantage; and, dropped into the eye, this oil is asserted after some months' use to have a solvent action on cataract.

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[1] Med. Times and Gazette, April 1862.

branches o the vagus. This kind of action is of no use to us in the case of asthma, but, on the other hand, it can always help us when there is paralysis of the pneumogastrics and increased depression in the vessels. Belladonna, which makes the circulation more active, gives a new impulse to the blood when it is stagnating in the lungs, and the first effects of this are perceived in the relief of breathing.

Action on the Cord.—Bezold had formulated the following law:—Belladonna possesses the power of paralysing all the organic muscles, and especially the sphincters. But this law is false, for, merely to give one instance, belladonna dilates the pupil, but contracts the organic muscular fibres of the intestines. As to the muscular fibres of the bronchi, to which some have attributed the spasm of asthma, belladonna has no action upon them ; besides which there is no need to concern ourselves with those muscles, as it is well understood, at the present day that they play no part in the production of asthma.

THE SULPHO-CARBOLATES IN THE TREATMENT OF DISEASE.

BY ARTHUR ERNEST SANSOM, M.D. LOND. M.R.C.P.

Physician to the Royal Hospital for Diseases of the Chest, City Road; to the North-Eastern Hospital for Children, &c.

THE relation subsisting between Fermentation and Disease has been long established. The current of modern investigation has greatly tended to show that the phenomena in both instances are due to minute particles, whose vast powers consist in the fact of their possessing vitality. Ordinary ferments and disease-producing ferments have one character in common—*they themselves are endowed with life.*

The practical application of this principle must have an influence on the prevention and on the healing of disease. What can be done towards the arrest of the morbific influence of these agencies, whether without the body or within? As to the first part of the question, we have the testimony of ages to the value of destroying the inoculable stuff or removing the individual from the baneful area. Hence the practice of disinfection. We have now abundant scientific evidence as to the nature of the processes of disinfection; they are those of disintegrating or killing the germs of disease externally to the living organism. To these lowly-endowed beings little things may be fatal. Chemical agencies alter their molecular constitution so that vitality is no longer possible. In the course of an epidemic nature sometimes permits a series of meteorologic or telluric changes, which arrest the spread by destroying the energy of the organized cause. Every one knows what slight changes will arrest the progress of fermentation. "The occurrence of fermentation," says Professor Miller, "is prevented by the presence of small quantities either of oxide of mercury, of strychnia, or of quinia, as well as by solutions containing traces of sulphurous acid, or of the sulphites. Small quantities of creasote, of oil of turpentine, and of many essential oils, have a similar effect."[1] Then, speaking of the yeast-cells, he says: "Everything that destroys the vitality of these organized bodies destroys their power of exciting fermentation." Surely this latter observation is sufficient to indicate the essential *rôle* of living things in fermentations. Slight causes may arrest the vitality of lowly-endowed organisms. To take a rather bold example: let there be but a little undue acidity of the maternal fluids, and that embryo will die which in the future under favouring circumstances would develop to the full maturity of manhood.

It being proved that disease-germs are capable of destruction whilst they are outside the individual organism exposed to their influence, the question next occurs, Is it possible to destroy such organized molecules, when once they have entered the living body and have commenced that action which is manifest in the production of phenomena of disease? That such a thing has no *primâ facie* impossibility is shown by the fact that we are frequently employing internal remedies to destroy entozoa having far higher vital endowments. Furthermore we have evidence that the very drugs which we have been accustomed to administer in zymotic diseases have themselves great power as antiseptics or destroyers of germs. I have myself determined experimentally that the fermentation of two fluid drachms of yeast mixed with 25 grains of sugar, and placed in circumstances the most favourable for the process, is wholly arrested by the following:—Liq. hydrargyri bichloridi, half a drachm; tincture of the perchloride of iron, five minims; sulphite of soda, five grains; sulphuric acid, one-tenth of a grain. Fermentation was *almost* wholly arrested by five grains of acetate of lead.

It is obvious that these various agents in arresting fermentation cannot manifest their effects wholly and solely in virtue of their chemical powers. Most of them are admitted to be oxidizing agents. But how totally insufficient must be the quantity of oxygen which the efficient amounts of the various compounds are capable of liberating to chemically alter the oxidizable stuff of the ferment plus the fermentescible matter! Sulphite of soda is a *de*oxidizing agent; its power can be estimated by the quantity of oxygen which is required to convert it into a sulphate; this quantity is less than one-sixth of its weight. Five grains, therefore, of sulphite of soda would absorb considerably less than one grain of oxygen, the merest fraction of the oxidizable matter present in the sugar employed.

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[1] Elements of Chemistry, Part III. p. 106.

When we take into consideration the observed effects of sulphurous acid and the sulphites in arresting the vitality of living things, we must, I contend, conclude that these are far less chemical agents than they are poisons to the low forms of life. When we consider the myriads of germs which a few grains of a sulphite is capable of destroying, we have a *primâ facie* ground for administering them to the individual body which is suffering the decompositions of disease. We find that the administration is attended by no deleterious effects to the higher organism. Moreover, that the salts administered do possess that power of arresting internal decompositions which we have proved them to possess in regard to external fermentations, is established by the fact that if the sulphites be freely administered to a living animal, its tissues after death do not present the phenomena of decay.

These observations as to the mode of action of the sulphites pertain with greatly increased force to carbolic acid. It is proved that a mere trace of carbolic acid kills all the low forms of animal and vegetable life, arrests fermentation, and forbids decomposition. Yet not only is it shown that it exerts scarcely any purely chemical action and interferes with scarcely any purely chemical change,[1] but its elements ($C_6\ H_6\ O$) are precisely the same as those upon which it exercises its influence. It seems to be impossible that we can disregard the testimony of the host of observers that have declared to the efficacy of carbolic acid in arresting the spread of disease when employed as a disinfectant. Now if it has, as the able chemists have determined, no appreciable chemical action on decomposition and its products, while it instantly destroys all living germs, we are in this dilemma: either we must agree to the germ theory, or we must acknowledge that the national resources have been expended, in times of cholera, on a body which is inert and useless.

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[1] See Appendix to Third Report of Cattle Plague Commissioners, by Wm. Crookes, F.R.S. p. 191.

The internal diseases in which, according to the records of observers, the administration of carbolic acid has been attended with success are the following:—Dyspepsia, diarrhœa, dysentery, cholera, croup, diphtheria, hooping-cough, bronchitis, phthisis, erysipelas, syphilis. In most of these diseases it will probably be acknowledged that various decompositions are taking place within the body, which, according to experience derived from its operation outside the body, we may consider that carbolic acid has an *à priori* likelihood of arresting.

In my opinion, however, experience has shown that there are difficulties, and even dangers, in the administration of carbolic acid. 1. It is of a very nauseous odour and taste, so that, even in extreme dilution, it is difficult of administration, especially to children; 2. its thorough solution in unaccustomed hands is not very easily accomplished; 3. it is a violent irritant of sentient surfaces, so that it can possibly be administered in only small amounts; 4. it has a peculiar caustic action on animal membranes, evidenced by its turning mucous surfaces of a dead white colour; 5. it has a toxic action, producing hyperæmia of the nervous centres; 6. it forms compounds possessing varying modes of action with different organic compounds—with alcohol, glycerine, fats, &c.; so its effects will probably vary not only with the medicinal adjuncts with which it is administered, but with the nature of the contents of the stomach at the time of administration.

The double salts of carbolic acid which I have introduced, and whose physical characters, &c. I have described in a paper read before the Royal Medical and Chirurgical Society on March 9th, 1869, will, I think, prove to possess, as remedial agents, the advantages, without the difficulties and dangers, of carbolic acid. These are salts of the double acid, sulpho-carbolic acid.

SULPHO-CARBOLIC ACID (*Syn.* Sulpho-phenic acid, $C_6 H_6 SO_4$) is produced by the admixture in equivalent proportions of sulphuric and carbolic acids. I have obtained the pure double acid in the form of very long, colourless, finely-acicular crystals, which are very deliquescent.

THE SULPHO-CARBOLATES are produced by neutralization with the various bases. I have succeeded, with the help of Messrs. Balmer, in producing fine specimens of the salts of sodium, potassium, ammonium, magnesium, zinc, iron, and copper.

Preparation.—I have found many specimens lacking the true characteristics of a sulpho-carbolate. The danger is contamination with: 1. the sulphate of the base employed; 2. the carbolate which evolves the odour of carbolic acid; 3. free sulphuric acid; 4. free carbolic acid. The best method is to produce first a definite sulpho-carbolic acid by taking equivalent weights of its components, and to neutralize with the calculated weights of the oxides employed. Crystallization should take place slowly without heat.

Tests.—Each sulpho-carbolate should possess a definite and decided crystalline form. They should give off scarcely any odour of carbolic acid; they should give no precipitate with barium chloride. If boiled for some time with strong nitric acid, and then diluted with a little water, a yellow crystalline deposit of picric acid should be thrown down, and the filtrate should give with barium chloride the reaction of sulphuric acid. On a crystal being dissolved in distilled water, and a few drops of solution of perchloride of iron added, a beautiful purple or mauve solution should be produced. I have found $\frac{1}{60}$ grain of sulpho-carbolate of sodium capable of inducing the mauve tinge.

Mode of Action.—It must not be supposed that the sulpho-carbolates are powerful *direct* antiseptics; I am convinced that they are far less powerful than carbolic acid. From experiments which I have made I conclude that, in regard to prevention of fermentation, half a grain of pure carbolic acid is equivalent to twenty grains of sulpho-carbolate of sodium. It may therefore be concluded, that not only is the salt as compared with the acid far less efficient in destroying the life of vegetable cells, but also that the acid loses in this power by its combination with the base; *i.e.* that the same amount of carbolic acid, when free, is equally efficient with nearly twenty times that amount when in combination. The important characteristics, however, of these salts are, in my opinion, (1) that they can be readily administered to the living animal body without difficulty or danger; (2) that *in transitu* throughout the system the carbolic acid becomes evolved, producing its beneficial effects. When sulpho-carbolate of sodium has been administered to an animal, sulphate of sodium is found in the urine and in the tissues, while carbolic acid escapes with the breath. The flesh of the animal resists post-mortem putrefaction.

By administering sulpho-carbolate we are enabled in effect to administer carbolic acid in an innocuous form, and in a quantity which it would be impossible to employ by other means.

Practical Employment.—The *sulpho-carbolate of zinc* has been chiefly used as an external application in the form of lotion. Mr. John Wood was, I believe, the first thus to employ it. Three to ten grains should be dissolved in an ounce of distilled water. The effect on suppurating surfaces is marked in the arrest of pus-formation and the abolition of all fœtor. Mr. Wood believes with me, that by the influence of the organic constituents of the suppurating surface the sulpho-carbolate is decomposed and carbolic acid is evolved. It is greatly superior to carbolic acid, on account of the absence of irritating qualities, and of all unpleasant odour. I have used it as an injection in gonorrhœa, the discharge of which it at once checks.

For internal administration I have chiefly used the sulpho-carbolate of sodium. This is freely soluble in water, and the solution has scarcely any objectionable taste. Children take the pure salt readily.

Dose.—From repeated trials I convinced myself that doses of from twenty to sixty grains could be readily absorbed. I have now employed it in about 200 cases. In not more than six out of the whole number have any direct contra-indicating effects been produced by the drug. In two cases sickness occurred, in the others a feeling of slight stupor or powerlessness was produced, which passed away in a few minutes.

Use in Phthisis.—In my paper read before the Royal Medical and Chirurgical Society I gave an analysis of thirty-five cases of phthisis, in which I administered sulpho-carbolate of sodium in doses of ℈i to ʒi. I considered this table as proving that the drug could be given for periods averaging two months without the production of any ill effect. On the other hand, there was for the most part a steady gain in nutrition. A further experience has confirmed and increased my belief, that in the sulpho-carbolate of sodium we have a drug valuable in the treatment of pulmonary phthisis. I do not believe that it has any special power in arresting the progress of tuberculisation. Rapid cases occur over which it appears to have no control whatever; but over the accidents of tuberculhaemia it seems to me to exercise a benignant influence. Under the treatment, I have found in many cases strength increased, rest improved, fœtor of expectoration arrested, night sweats removed, and appetite increased. I have made an analysis of fifty-two cases treated by the sulphocarbolate. These include ten in the *first stage* of the disease; eight of which manifested decided improvement. In one case the local signs disappeared; one gained in weight 2½ lbs. in three weeks; another, 2 lbs. in six weeks; a third, 6 lbs. in five weeks; and a fourth, after manifesting great improvement, left off all treatment, and on my observing him three months afterwards, he had gained 9 lbs. On the other hand, one case manifested sickness and progressive loss of weight, and the drug was discontinued; and the signs in another case were doubtful.

In the *second stage* I observed thirty-one cases. Twenty-four testified to considerable improvement, for the most part manifest in increased strength and energy. A gained 1 lb. in a fortnight; B, 1 lb. in six days; C, 3½ lbs. in a month; D, 1 lb. in two months; E, 3 lbs. in three months; F, 8 lbs. in two months; G, 2 lbs. in three weeks. In one case in which the temperature was carefully noted it fell from an almost constant 97·6° Fahr. to an almost constant 95·6° Fahr. On the other hand, in one case which at first manifested improvement the disease quickly progressed; the same happened in a second case, who attributed his symptoms to domestic trouble. One case rapidly went from bad to worse, and in six there was no improvement.

In the *third stage* I noted eleven cases. One case rapidly improved, the patient expressing himself as "feeling a different man." One gained 2 lbs. in a fortnight, and on observation two months after had further gained 2½ lbs.; another gained 2¾ lbs. in two months; four testified to feeling increase of strength. Three, however, showed no influence exerted over the fatal course of the disease, and two were doubtful. Altogether I conclude that but very little good is done by the drug in the third stage of the disease, but enough evidence exists to warrant that it may exercise a beneficial influence over the conditions in the first and second stages.

My experience of the use of sulpho-carbolate of sodium in *zymotic diseases* is unexceptionably favourable. During twelve months I have administered it in every severe case which has fallen under my observation. I have not had one fatal result. I have, however, always strenuously endeavoured to guard against a prematurely uttered conclusion. I only hope for a fair and impartial trial of the mode of treatment by my professional brethren.

Severe Tonsillar Ulceration.—I employed the treatment in five cases, which all rapidly recovered without the occurrence of suppuration. The first case in which I thus employed it was that of Mr. H——, to whom I was called by a message expressive of great urgency, on December 4, 1867. I found the patient suffering extreme pain and inability to swallow, salivation, voice greatly impaired; pulse 120, and much febrile excitement. He had been my patient the previous year with similar symptoms, though of less severity. There then occurred much suppuration, and the patient was confined to his home for about a fortnight. This time, anticipating a similar history, I counselled absolute rest, demulcent drinks, and half a drachm of sulpho-carbolate of sodium in solution every four hours. I arranged to call the day but one following; on doing so I found to my surprise that my patient had gone to business. He subsequently called on me professing himself quite well; the ulcerated tonsils were cicatrising. All the other cases recovered uninterruptedly. Of course such results may have been fortuitous, but they were strangely different from those of my former experience, and I now never hesitate to use the sulpho-carbolate in analogous cases.

In a case of *diphtheria* with abundant false membrane I administered the sulpho-carbolate of potassium. Perfect recovery took place; but as brandy and beef-tea were assiduously administered, I should hesitate to attribute to the sulpho-carbolate the chief share of the success.

I employed the sulpho-carbolate of sodium in five severe cases of *scarlet fever*. In one of these cases the thermometer in the axilla indicated 105° F., in another 103° F.; in the former there was slight albuminuria on one day, which disappeared the day following; on the twelfth day of the fever the temperature had fallen to 98·2°. Recovery was perfect, rapid, and uncomplicated. In another case, though there were on the first two days severe throat-signs, a universal rash, and subsequently the most perfect desquamation, there was so little *malaise* that the patient, a little girl, was dressed each day and continued her play as if in health. All the cases recovered in a less period of time than under any treatment which I have previously employed in similar cases.

I employed the sulpho-carbolate of sodium in two cases of facial *erysipelas*. Both evidenced extreme febrile symptoms. I had only a single opportunity of using it in *variola*; the patient, a middle-aged gentleman, had been vaccinated in childhood; he recovered rapidly.

It is only in the hope that my professional brethren will give the plan of treatment a trial that I record these few imperfect observations. Individual experience may indicate a possible solution of certain of the therapeutic problems presented by these diseases, but it can never pretend to anything approaching rigid scientific accuracy. The zymotic poisons differ not only in themselves, but in the secondary conditions which they induce; and a treatment successful in the case of one may be unsuccessful in the cases of others. I believe that almost every day we are accumulating data which tend to the elucidation of their nature and history. The practical problems of the too much neglected art and science of therapeutics are only to be solved by the study of the results of accumulated individual observations, and by organized experience.

ON THE MEDICINAL USE OF PHOSPHORUS AND ITS COMPOUNDS.

BY JOHN C. THOROWGOOD, M.D.

Senior Assistant Physician to the Hospital for Diseases of the Chest, Victoria Park.

SINCE the discovery and isolation of the element phosphorus by Brandt, of Hamburgh, in 1669, it has become the practice with physicians, in this and other countries, occasionally to prescribe this substance as a remedy in cases where some special stimulant to the nervous centres has seemed to be required. Thus we find that phosphorus has been administered in cases attended with great prostration of the vital powers, as in the latter stages of typhus fever, also in such chronic diseases of the nervous system as epilepsy, paralysis, melancholia, amaurosis, &c., occurring in debilitated subjects; and there is good evidence to show that in many of these nervous affections the effect of phosphorus, properly administered, has been decidedly beneficial.

It is hardly necessary to remind the reader how largely the compounds of phosphorus enter into the composition of the juices and tissues of the animal system generally; while, specially, in brain and nerve tissue are found certain phosphorised fats which appear to contain phosphorus in considerable proportion at a low degree of oxidation, so that the accurate analysis of these phosphorised fats of the nerve tissue has always been a matter of difficulty to the chemist, since the necessary processes of analysis almost inevitably raise the phosphorus to a higher degree of oxidation, and so bring it under the analyst's notice as phosphoric acid—free, or combined with an alkaline or earthy base. According to the experiments of

Gobley, subsequently confirmed by those of Lehmann, an acid phosphate of glycerine has been demonstrated in softened brain substance; and Von Bibra has proved the existence of phosphorus itself in the fatty matters of the brain in the proportion of from 1·5 to 1·9 per cent. There appears to be more phosphorus in the grey than in the white substance of the brain, but as yet no connexion has been traced between individual intelligence and amount of phosphorus contained in the brain substance.

The well-known fact that in cases where an unusual degree of wear and tear of the nervous system is being sustained it is common to find an excess of phosphatic matter excreted in the urine, while the individual becomes increasingly weak, nervous, and irritable, appears to show that exhaustion of nervous force is in some way connected with a rapid oxidation and excretion of phosphorus from the system.

Considering these points, we can see that there is reason in seeking to administer phosphorus as an internal medicine where we have reason to suspect that the nutrition of nervous matter may be failing from a loss of its right proportion of this very essential ingredient.

We give phosphorus for its restorative action over weak nerve, just as we give iron to nourish and restore blood that is weak and poor from lack of this constituent. A difficulty and objection in the medicinal use of phosphorus has hitherto been the finding of an eligible and convenient preparation in which to enable the stomach to bear and digest the drug; for when the phosphorus is given dissolved in oil, or in ether, it forms a very nauseous mixture, which after a while appears to heat and irritate the stomach. Some practitioners persuade themselves that they are nourishing the brain and restoring the nerves if they administer phosphoric acid and various of the phosphatic syrups, now so much in vogue, to their patients. Few will deny that often much good is done by these preparations of oxidised phosphorus, but it seems doubtful if the restorative action of phosphorus, thus given in a state of complete oxidation, over nerve tissue is equal to its action when given in a lower degree of oxidation, either as pure phosphorus itself, or else combined in the form of a hypophosphite; a salt which contains phosphorus at so low a degree of oxidation that it will ignite and burn at a moderate heat just as pure phosphorus would do.

Solid phosphorus, given in as small a dose as 1½ grain, acts as a poison, death seeming to take place in a gradual and painless way, with perfect retention of consciousness. There may be some vomiting, and the substances ejected appear luminous in the dark, as also does the stomach itself after death, when cut open in a dark place; but it is rare to find any marked inflammation of this organ: in the case of a bird poisoned by eating several grains of phosphorus, I could find scarcely a trace of inflammation anywhere in the digestive tract. In a case recorded by Casper, where a dose of 3 grains of phosphorus proved fatal to a lady in twelve hours, the body after death presented the extraordinary phenomenon of luminous vapour issuing from each of its outlets.

Analysis of the various tissues of animals poisoned by phosphorus has demonstrated the presence of phosphoric acid in unusual amount: this arises from the oxidation of the phosphorus in the body. Phosphoric acid is also increased in the urine of those who have taken any preparation of phosphorus. The action of phosphorus as a poison appears not to be due to any direct action on the nervous system, but to its preventing the assimilation of oxygen by the constituents of the blood; by thus checking oxidation it may cause the fatty degeneration of the liver so often met with in those who have been poisoned by phosphorus, and which is doubtless connected with the symptoms of severe icterus often seen in the patients before death.

For medicinal use there are solutions of phosphorus in ether and also in almond oil. One fluid ounce of ether will dissolve, after long digestion, 4 grains of phosphorus, and the oily solution is in the same proportion. The most recent formula for the phosphorated oil is that of the French Codex, for which I am indebted to Mr. C. Savory; it is as follows :—

Form from French Codex for Phosphorated Oil.

Phosphorus, 2 grammes.
Oil of almonds, 100 grammes.

The oil is gently warmed with the phosphorus for about twenty minutes in a flask that is almost closed to exclude the air; when cool the oil is decanted off from the undissolved phosphorus.

The oil, thus prepared, may be given in emulsion, or with cod-liver oil in a dose of from 3 to 8 drops, like the phosphorated oil of the Prussian Pharmacopœia, and is hardly less nauseous in flavour.

Another very useful preparation of phosphorus is a pill, made by melting finely-divided phosphorus with fat and then covering the pill with an impermeable coating.

Pills that I have seen and used, made by Messrs. Savory and Moore, contain $\frac{1}{40}$th of a grain of phosphorus in each pill. Both Dr. Radcliffe and Dr. Althaus speak favourably of the good effect of phosphorus, given thus in very small doses, as a valuable tonic in many chronic nervous maladies.

Some years ago the phosphorated oil was tried by Dr. Hughes Bennett in several cases of paralysis; but, though the dose was a full one, the medicine had not much perceptible effect beyond causing a great increase in the quantity of phosphoric acid excreted by the urine.

A further, and more recent, trial of phosphorated oil has been instituted by Delpech, of Paris, in cases of paralysis, and he has found reason to speak well of phosphorus as a useful medicine in these cases; it seems to invigorate the system and so act as a tonic. It was thus that Dr. Anstie found phosphorus to act beneficially[1] as a tonic in cases of epilepsy; over the actual fits the drug did not seem to have much power, but it relieved the languor and depression felt in the intervals of the fit in a very satisfactory way.

M. Tavignot, in France, has long been in the habit of using phosphorus in the form of a pill, containing $\frac{1}{70}$th of a grain, as a remedy in nervous, chlorotic, and strumous affections. In some neurotic and paralytic affections of the muscles of the eyeball, and of the lachrymal nerve, M. Tavignot has used liniments of phosphorated oil with advantage; and, dropped into the eye, this oil is asserted after some months' use to have a solvent action on cataract.

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[1] Med. Times and Gazette, April 1862.

The oil here used is made by dissolving 10 centigrammes of phosphorus in 30 grammes of the oil of sweet almonds by the aid of a water bath.

According to the *American Medical Journal* for January 1869, Drs. Du Jardin and Beaumetz have met with good results in the treatment of progressive locomotor ataxy with the phosphorated oil, given in capsules, each one of which contains one milligramme ($\frac{1}{70}$th grain) of phosphorus. These observers think that the phosphorus checks the excessive proliferation of connective tissue in the spinal cord, which produces varicosity of the nerve tubules and all the morbid effects observed in locomotor ataxy.

The observations of M. Ranvier confirm the foregoing. M. Ranvier believes that phosphorus takes away formative irritation and opposes the multiplication of the cell elements of the connective tissue; its local action is very slight, and it scarcely affects either the temperature or the pulse; it nourishes nerve much in the same way as iron nourishes weak blood. To me these remarks on the tendency of phosphorus to check undue production of the cell elements of the connective tissue seem both interesting and important, for they may explain the beneficial effect of phosphorus in some diseases which are not directly to be classed as nervous affections. I have before me records of some cases of pulmonary disease where the action of phosphorus has been very marked. One case was that of a lady, aged 43 years, who, ever since she caught cold two years previously, has been liable to cough with harsh and difficult breathing and all the symptoms of chronic bronchitis, without apparently much emphysema of the lung. Many and varied were the remedies used in this case with no very marked benefit, until a phosphorus pill ($\frac{1}{40}$th grain) was given twice a day; and from this pill more real benefit was received than from any other remedy, the respiration becoming easy and free from sonorous râle, and the patient recovering sufficiently to need no further medical aid.

In numerous other cases of chronic pulmonary disease, in which there seemed no special reason to think that tubercles were actually present, I have administered phosphorus in the form of the hypophosphite of potash with excellent results.

This hypophosphite of potash is a deliquescent salt, very rich in phosphorus, taking fire and burning at a very low temperature, and possessing a resolving and liquefacient action so strongly marked that I have known great mischief to result from its incautious administration to persons affected with tubercular deposit in the lung. A highly intelligent surgeon near London told me some time ago that he feared ever again to give the hypophosphite of *soda* to one who had tubercular disease, for he was sure that in the instance of a medical man, for whom he had prescribed this salt, it caused a rapid softening of the tubercular deposit. I said I could believe this easily if he had given his friend the hypophosphite of *potash*, but I doubted its happening when the soda salt was used in a moderate dose. To make certain on this important point we went to the surgery, and the bottle containing the remainder of the salt was hunted out from the obscurity to which it had been consigned: it proved to be a bottle of good and genuine hypophosphite of *potash* as I had suspected.

In the case of a patient under my care at the Victoria Park Hospital for obstinate chronic bronchitis with thick fetid expectoration and tendency to congestion of the lung, 5 grains of the hypophosphite of potash in camphor water effected a complete cure without any other medication whatever. To test the effect of the treatment I stopped the medicine during one week, and the effect was a marked increase of cough and thick fetid expectoration; on returning again to the mixture these symptoms were entirely removed and the patient was dismissed cured.

In other cases of chronic bronchitis, remaining after the subsidence of an acute attack of the disease, and not, as a rule, complicated by the presence of emphysema of the lung, I have given the hypophosphite of potash in camphor water with much advantage.

As a gradual tonic and restorer of failing nerve force I prefer the hypophosphite of soda or of lime to the potash salt, and either of these salts appears to me to answer all the purposes of pure phosphorus as an internal remedy, while at the same time they are more manageable and agreeable medicines. In cases of nervous depression and torpor, with at times shooting neuralgic pains; or, in other cases, numbness and deadness of the limbs, as from feeble circulation; the hypophosphites prove useful, and the lime or soda salt can be given according to the way in which the stomach may seem to bear the one better than the other. When anæmia is present, the citrate of iron can be added to the hypophosphite of soda, or else the syrup of the hypophosphite of iron, or of iron with quinine, can be employed; and either of these syrups will prove an active tonic, removing neuralgic pains, chest oppression, and languor of circulation in a very evident way.

In cases of pure hypochondriasis, with tendency to true melancholia, I have used the hypophosphite of soda in full doses, but have not found it to exercise the least effect over this form of depression, while from very small doses of strychnine the patient obtained most unmistakeable relief. I have noted in other cases that, where a depressed state of system was connected with any obvious form of dyspepsia, the hypophosphites were of very little benefit. Among other cases in which I have tried phosphorus in the form of either the hypophosphite of lime or soda, I may enumerate two cases of psoriasis of the skin in which the action of the drug was strikingly beneficial. I have tried the hypophosphite of lime in a very obstinate case of acne, but here it failed to relieve, though subsequently the sulphur water of Harrogate proved eminently useful. In numerous cases of phthisis pulmonalis I have administered various hypophosphites, with a view to increasing and restoring wasted nerve force; in an exhausted state of which I believe many cases of true tuberculosis to have their origin. Such experience as I have had leads me to think, with some others who have made careful trial of the hypophosphites in phthisis, that these salts are certainly to be regarded as valuable remedial agents in the treatment of this disease, especially in its premonitory and early stages.

CONTRIBUTIONS TO OPHTHALMIC THERAPEUTICS.

BY ROBERT BRUDENELL CARTER, F.R.C.S.

HINTS ON THE TREATMENT OF IRITIS.

Iritis is one of the few forms of disease in which it is never sufficient that the surgeon should watch over a recovery, but in which he is always called upon to endeavour to effect a cure. Recovery, or what passes for recovery, will take place in the great majority of instances, but such recovery leaves behind it the fruitful seeds of subsequent and eventually destructive changes. I speak from an experience gained chiefly in provincial ophthalmic hospitals, when I say that iritis which has not been cured, but in which a so-called recovery has taken place, is very prominent among the actual causes of blindness. Not always a very severe, or painful, or long-continued form of ophthalmia, there are probably many cases of its occurrence in which medical aid is not sought at all. People say they have had "a cold in the eyes," but that it soon got better; and even when medical aid has been sought, the result is not always everything that could be desired. A large number of practitioners still go into the world from schools of medicine at which ophthalmic teaching is conspicuous by its absence; and the effects of this absence are seldom more clearly displayed than by patients in whom iritis has been either overlooked or maltreated. Maltreatment mostly takes the direction of some irritating application to the conjunctiva—such as sulphate of copper or nitrate of silver—and the usual result is, that the whole of the inner circle of the iris becomes adherent to the anterior capsule; the outer circle will then be projected forward by the increase and accumulation of fluid behind it, and the retina will be subjected to continually increasing pressure, until the case at last terminates (unless partially relieved by a sufficient iridectomy) in total blindness and wasting of the eyeball. When no irritants are employed, and the treatment is only faulty in respect of omissions, the worst ordinary result of a first attack is the formation of one or two points of adhesion. The aqueous humour recovers its clearness, the iris its natural aspect, the pupil, to all appearance, its circular outline, and the vision is restored; but if a drop of solution of atropine be applied, the pupil will be circular no longer; as it dilates, it may be seen to be tied down to the anterior capsule at one or two points, and instead of becoming a larger circle, it assumes a shape more or less like that of a club on a playing card. The adhesions are formed by effused lymph, possessing the usual contractility of organizable inflammatory deposits. Sooner or later, by their contraction, or by the mere irritation produced by their presence, or by rendering the iris the *pars minoris resistantiæ* when the health is deranged by some constitutional cause, they set up a second attack of iritis. In this, probably, a thin layer of lymph will be effused over the pupillary area, and formed into a delicate membranous film, rendering the vision indistinct. A third attack will soon follow the second, and the ultimate result will be much the same as in the cases in which the first attack has run a destructive course. At eye hospitals patients constantly present themselves at every stage of the process thus briefly sketched out, and their condition, although admitting of amelioration, is seldom susceptible of cure. There are few matters of more practical importance, than so to manage the original disease that these dreary consequences may not result from it.

A first attack of iritis generally depends upon mechanical injury, upon rheumatism, or upon syphilis—but, with certain exceptions, I am disposed to believe that the rheumatic or syphilitic forms are not specific; that is to say, that they are not rheumatic or syphilitic diseases of the iris, but that the blood poison, like an injury, acts as a direct irritant to the nerves of the organ, and produces a "common" form of inflammation. I rest this impression partly upon the admitted impossibility of determining, by anything in its symptoms, its course, or its amenability to treatment, whether a given attack of ordinary iritis be syphilitic or not, and partly upon an opportunity lately afforded me of observing (for the first time) the absolute commencement of the disease. Iritis is scarcely ever seen by the surgeon until it is declared. Mr. Haynes Walton has mentioned impairment of vision as an early symptom, and as one that should lead us carefully to scrutinize the iris in cases of supposed conjunctivitis. Dr. Rudolph Schirmer has lately claimed originality for the suggestion that a diminished lustre of the external surface of the membrane is the earliest appreciable symptom; and Dr. Wecker has since shown that to this he had himself called attention. A few months ago, however, I was summoned to a gentleman, who had awakened the same morning with some uneasiness in one of his eyes. There was just so much congestion of the conjunctiva as might be due to the fact that the uneasiness had induced him occasionally to rub the closed lids with his fingers. Vision was perfect. The aqueous humour was clear, and the lustre of the iris unimpaired. Besides the uneasiness, the only symptom present was contraction of the pupil, its diameter not being more than two-thirds of that of its fellow. The contraction naturally suggested the employment of atropine; but the pupil resisted atropine. A strong solution, freely applied, had produced, after the lapse of two hours, only a small amount of dilatation: there was, therefore, a spasmodic contraction of the sphincter pupillæ, due, it may be presumed, to the reflex of some nervous irritation. Within twenty-four hours general parenchymatous iritis of the most severe form had declared itself, and presented the ordinary symptoms.

In the inflamed iris, as in every other diseased organ, we must recognise the presence of a variable degree of recuperative energy; by which the progress of the malady is resisted, and by which the injuries wrought by it are repaired. We must also admit that the morbific force necessarily differs in different cases, not only in the severity of its first impact, but also in the persistence of its action; and the differences thus indicated are sufficient to account for all the phenomena ordinarily witnessed in the disease. We see some instances in which the opposing morbific and recuperative forces are so nearly balanced, that a very little interference from the surgeon turns the scale in favour of the latter; and we see other instances, in which the morbific force so much preponderates, that very energetic treatment is absolutely required. The slightest cases of iritis are those that follow a simple mechanical injury of not too profound a character; the most severe follow injuries that act continuously —as when a foreign body is lodged within the eye, or when lens matter is broken up, or as in the insidious and destructive forms that mark the commencement of sympathetic ophthalmia, and that are produced by some source of permanent irritation acting on the ciliary nerves of the other eye. Sympathetic ophthalmia, indeed, appears to me strongly to confirm the opinion I have expressed with regard to the nervous origin of iritis. Intermediate degrees of severity are seen in the so-called rheumatic and syphilitic cases; and perhaps the most grave of these occur in rheumatic patients, in whom the rheumatism itself is imperfectly treated, or in whom the vitiation of the blood, consequent upon tardy and imperfect action of excretory organs, does not receive a proper amount of attention. But the variations in degree may probably always be referred to the varying relations between the two chief factors of the case; that is, between the intensity and persistence of the cause and the reparative power of the patient. In every instance, therefore, an attempt to estimate the values of these factors must form the basis of rational treatment.

In actual practice, however, iritis is not unfrequently overlooked, and it may be well, before speaking of its cure, to lay down a simple rule for its detection. That rule is, that being one of the most important forms of ocular inflammation, it should always be present to the mind of the surgeon, *and should always be looked for in an inflamed eye.* If there, and if looked for, it cannot fail to be found. Something will depend, of course, on the way of looking, and the first precaution necessary is to have a good light, so placed that the iris and pupil are not concealed or obscured by reflections from the cornea. From want of attention to this simple point, I have seen an error made by a very skilful and experienced ophthalmic surgeon. The patient being rightly placed, and the sound eye closed, the shadow of the surgeon's hand should be made to fall upon the affected eye, and to leave it suddenly, two or three times in succession. If the pupil dilate and contract quickly, all is well; if its movements are slow and uncertain, or restrained at any point of its circumference, atropine should be applied, and then iritis, if present, will be shown by irregularity of the shape of the dilated pupil, or even by its resisting dilatation.

It is possible that some might be in danger of mistaking acute glaucoma for iritis; but this error may always be avoided, by remembering that acute glaucoma is the only inflammatory disease of the eye in which the pupil is found dilated. Exception may, perhaps, be made with regard to cases that resemble glaucoma in their immediate cause; namely, the inflammations that are due to the increased tension produced by a growing intraocular tumour.

The disease once recognised, we are brought fairly face to face with the question of treatment; and, in the first instance, with the question whether there is still in operation any cause that can be speedily removed. An impacted foreign body, ciliary irritation propagated from the other eye, and the imperfect excretion connected with the lithic diathesis, are among the causes of this kind that are most probable, and that should be sought for. The two first would require, when practicable, to be removed by surgical operation, and the last by such eliminative medicines as the case might demand.

In the meanwhile the presence of the effect must not be forgotten. Even when clearly depending upon constitutional causes, iritis must not be left to the unaided operation of remedies calculated to remove those causes. The inflammation affects an organ so delicate and important, and may produce so much permanent mischief in a short space of time, that it must be subdued as speedily as possible by the aid of local treatment. For this purpose atropine is the chief agent. A solution of the neutral sulphate in distilled water, of the strength of from two to four grains to the ounce, must be dropped into the eye, at first at short intervals, as every hour, and when dilatation is produced, or in case the pupil after a few applications still resists dilatation, about twice or three times a day. Dr. Heymann, of Dresden, has advised, in severe cases, the application of a particle of solid atropia or of its sulphate to the tarsal conjunctiva, as being more certain and powerful in its action than any solution; and in some instances I have followed this practice with advantage. The precise method of application is, however, a matter of small importance, and the point to bear in mind is, that the use of atropine, in every case of iritis, whatever else may be done or left undone, is the one thing that should never be omitted at the commencement of the treatment.

It was at one time supposed by many, or even generally, that the chief value of atropine depended upon its power to dilate the pupil. There can be no doubt of the great importance of this mode of its action, by which the pupillary area becomes so much expanded, that, as a mere question of quantity, it is with difficulty blocked up by effused lymph, and by which any adhesions that have been formed are stretched and weakened, and thus placed under conditions favourable to their detachment and absorption. But in the most severe cases atropine does not begin to dilate the pupil until the inflammation has first been in some degree subdued, or has subsided; and yet, in these very cases, its beneficial influence is, perhaps, even greater than in others. I should explain this influence in few words, by saying that, besides having some not very pronounced action as a sedative, and besides diminishing hyperæmia by producing some contraction of the blood-vessels, it secures rest to the parts within the eye. In treating the ophthalmiæ generally, we perhaps hardly reflect sufficiently upon the ceaseless movements of the structures with which we have to deal. The recent researches of Hensen and Voelckers, besides those of other observers, have shown that the choroid, as a whole, is perceptibly shifted to and fro by the action of the muscle of accommodation; while the size of the pupil, and probably, also, the amount of blood in the iris, vary not only with every adjustment of the eye for distance, but with every slight variation in the amount of incident light. These changes, moreover, take place simultaneously in both eyes, under the influence of impressions acting upon a single one only; and hence, in monocular iritis, every visual sensation experienced by the sound eye, and every variation in the amount of light received by it, even such as are dependent on the momentary withdrawal and replacement of a shading hand, or upon the momentary direction of the face towards a more or less lighted portion of the room, are attended by dragging and movement of the parts that are inflamed. Although inflammation may, and often does, affect the iris alone, yet there are many instances in which it spreads from this to other structures, and produces most disastrous effects. The importance of absolute rest in preventing such extension, and the liability of ceaseless movement to favour it, are both so obvious, that it is needless further to dwell upon them, and (since atropine produces temporary paralysis of all the parts concerned in these movements) they furnish, to my perception, at once the most rational explanation of its value and the most cogent reasons for its sedulous employment.

To this employment, however, certain impediments sometimes present themselves. Cases of dangerous poisoning have been recorded, in which it appeared that the freely-used solution forced its way through the lacrymal and nasal passages to the pharynx. Dr. Liebreich has even proposed to obviate this danger, by using an instrument to maintain eversion of the puncta during the instillation; but it is difficult to believe that any risk could really occur, unless in consequence of an excessive use of the drug in the case of a patient possessing a very unusual susceptibility to its influence. The possibility of such a coincidence of events should not be lost sight of, but the prospect need have little influence upon daily practice. A more serious difficulty arises, when the atropine acts as a local irritant. It does so in some degree, not very infrequently, where its use has been long continued; and the explanation is, I believe, that the solution, when given into the custody of patients, often loses its neutrality, or undergoes other changes, from keeping and from exposure to sunlight. Irritation excited by a vitiated solution will sometimes be maintained by any other, and I have repeatedly seen drops taken from the same bottle, on the same day, prove irritating to one or two eyes, and innocuous to others. But, practically, this difficulty has little bearing upon iritis, in which the prolonged use of the drug is not often needed, and more frequently presents itself in the various non-inflammatory affections for which atropine is required. I have, however, met with two patients, in both of whom not only atropine, but any preparation of belladonna, acted as a violent local irritant, producing erysipelatous inflammation of the eyelids and cheek, and greatly aggravating the original disease for which it was prescribed. One of these patients had a soft cataract that I attempted to dissolve; the other suffered from recurrent iritis. In both, after the use of the ordinary solution had been abandoned, an ointment of atropine, and then a softened extract of belladonna, were at different times applied to the skin of the lids and orbital region, but always with the same result. In such cases the surgeon has no alternative but to abandon an agent that can no longer be beneficial; but such cases are fortunately far too rare in any way to modify our ordinary course of action.

In a certain proportion of cases the use of atropine, and the observance of obvious precautions to guard the eye against hurtful influences (such as exertion, light, heat, or the congestion caused by stooping postures or muscular efforts), will suffice to effect a cure. Unless there be acute pain, and when the case is seen early and the patient is in comfortable circumstances, atropine and rest may always be regarded as the essentials of the first prescription. Mr. Teale, in a very valuable contribution to the fifth volume of the Ophthalmic Hospital Reports, has laid down the rule that we may always trust to atropine for twenty-four or forty-eight hours; and that then, if it fails to dilate the pupil, we must have recourse to mercury. The breadth and simplicity of this precept are points much in its favour; and perhaps there are few "rules" that might be regarded as more worthy of confidence and general application. But the use of rules in practice is objectionable, and tends to fetter the mental operations of those who submit to them. I am disposed to think that the principle underlying this particular rule admits of more general statement; and that it will then be of universal applicability. It seems to be, in effect, that the employment of the resources of our art should be in exact proportion to the severity and to the obstinacy of the disease. We test these hostile elements by atropine and rest; or, in other words, by artificially induced stillness of the inflamed parts, and by secluding them from hurtful external influences. We thus often succeed in turning the scale in favour of recovery; and the disease terminates by what may almost be called spontaneous resolution—the treatment having been nothing more than the suspension of hurtful conditions of movement and of stimulation. Frequently it happens that the mere suspension of these conditions is not enough. Some cause of morbid action is still in operation, and must be neutralized or removed. Sometimes hyperaemia is a prominent feature of the case; and the application of one or two leeches near the eye will then usually allow the atropine to exert its peculiar property. Sometimes the aqueous humour is coarsely contaminated by effused products, or possibly by the *materies morbi* of rheumatism; and it is then that paracentesis of the anterior chamber appears to be especially indicated. But, in the great majority of obstinate cases, there is pain enough to constitute a marked feature of the disease. As long as there is pain there will be no improvement; and I am strongly of opinion that this pain is commonly merely a symptom of the persistence of the cause of this nervous irritation in which, as I have said, I believe that iritis has its origin. I hold it to be a principle that the pain of iritis must always be subdued by anodynes; not merely mitigated, but absolutely mastered. If there be no pain, no anodyne will be needed. If there be only "uneasiness," a moderate dose at bedtime may be sufficient. If pain be severe, opium or some of its preparations should be measured only by their effects—given hour after hour until the pain is no longer felt, and then continued at whatever intervals may be sufficient to keep it in abeyance. Mr. Zachariah Laurence has published reports of several cases of iritis treated successfully by opium pushed almost to narcotism; but I think the secret of his success was simply the removal of pain, and that this result (for which small doses will often suffice) is both the explanation of the *modus operandi* and the test of the quantity that should be administered. The preparation employed is a matter of little consequence. For the sake of rapidity of action, it is often well to commence by injecting a full dose of morphia under the skin of the temple; and pills of soft opium afford a manageable means of continuing the effect.

When all hitherto described has been carried out, there will still remain cases in which, notwithstanding the use of atropine, the relief of congestion, and the subjugation of pain, the pupil does not dilate, and vision either deteriorates or at least does not improve. In these cases it is found, as a mere matter of fact, that mercury, given rapidly, but discreetly, until the gums show some slight sign of its constitutional effect, will immediately break the chain of morbid action. From the very day on which the mercurial line becomes apparent the sensations of the patient are relieved, and the symptoms of inflammation decline. I am not prepared to discuss, at least in the space accorded to me here, the mode of action of mercury in iritis ; but I may say that I think its effect is quite as declared in the traumatic or in the rheumatic forms as in the syphilitic, and that the indication for its use is to be sought entirely in the severity or obstinacy of the attack, and not at all in the cause by which it was excited.

According to many practitioners, the administration of mercury by the mouth is injurious to appetite, and impairs the strength of the patient at a time when his reparative power is most needed. Hence Mr. Teale recommends inunction, and keeps the patient in bed for the purpose of promoting absorption. On the Continent, on a similar plea, the hypodermic injection of a solution of the bichloride has been employed. I cannot say that my own experience has confirmed these views, or has exhibited to me any of the ill effects that have been described. I am accustomed to use blue pills, and find them both efficacious and manageable. Two or three grains, with opium, given three times a day for one, two, or three days, according to the strength and condition of the patient, then followed by diminished doses until the gums show a sign of action, and then by one small dose daily until the condition of the eye is so much improved as to render relapse improbable, is the mode of administration that I have been accustomed to pursue. I have read and heard that the line on the gums need not be produced, and that all the good effects of mercury on iritis may be obtained without it; but on this point I must confess to some incredulity. I have seen one remarkable case of resistance to mercurial action, in which very large and frequent doses were at last employed, and in which the improvement of the iritis dated only from the day on which the line showed that the resistance was overcome. The condition once known as "salivation," and now rarely seen except as a result of accident or of idiosyncrasy, can never be useful, and should never be produced designedly.

Feeling perfect confidence in asserting, as a matter of fact, that mercury does literally "cure" the most severe forms of iritis, and that it cures them quickly and completely, I have little sympathy with those who denounce its employment. The argument is advanced by some that mercury must do either "good" or "harm;" that if a case will by any means get well without it, it must be superfluous; and that if superfluous, it must be hurtful. This argument is a congeries of fallacies. We are entitled to assume that the effect of mercury is to modify the nutritive processes; and we have not a tittle of evidence that this modification is other than temporary. If only temporary, it cannot be said to do "harm" in any proper sense of the word. Mercurial poisoning may, of course, be permanently injurious; but enlightened surgeons stop short of mercurial poisoning. I have treated many cases of iritis by mercury, and have had many of the patients so treated within my observation for several years. I have never seen, in any one of them, a single subsequent symptom which the most vivid imagination could connect with any "harmful" effect of the treatment; and I altogether disbelieve that the proper use of mercurial remedies is a course to be in any way deprecated or avoided. In a large number of cases they may be dispensed with as being unnecessarily powerful. In a large number they are, I believe, necessary to the cure; and in the intermediate conditions, where it is questionable whether the word "necessary" could be used, I should feel that I gave the patient the benefit of the doubt by administering mercury, not by withholding it. The surgeons who refuse to give it appear to me to diminish our resources without adding to our success.

In considering the practical question, how long iritis should be treated by less potent remedies than mercury? time is not the only element that should be taken into account. In private patients comfortably circumstanced, or in in-patients at a hospital, no great amount of mischief will be done by delay. If the disease be stationary under the influence of atropine, or of atropine and opium, we may safely wait two, three, four, or more days, in the expectation of a favourable change. But if the cornea should become turbid, either interstitially or upon its inner surface, if vision should become daily more and more impaired, or if there should be tenderness on pressure upon the eyeball a little outside of the corneal margin, these are indications that no more time should be lost, but that mercury should be pushed to the curative point forthwith. As a rule, however, it is quite unnecessary to admit a patient with iritis into hospital; and it is always proper, in the case of a poor man, to aim as much at rapidity of cure as at permanence. For an out-patient, therefore, I do not think it right to wait until his second visit, three days after the first, before laying the foundation of a treatment that may possibly be eventually required. Besides atropine, I give him as much opium as his condition seems to need, and small doses of mercury. In three days the mercury has had no evident constitutional effect; and it is discontinued if the eye is better, increased and pushed if the symptoms are less favourable than before.

During the whole period of treatment the eye should be closed and protracted by a compressive bandage, applied with comfortable tightness over a pad of jewellers' cotton wool. By this means the patient will be enabled to walk abroad without restraint, so long as he avoids injurious fatigue or hurry. Sometimes, especially when resting quietly at home, a poultice will be a pleasant substitute for the pad and bandage; but neither one nor the other should be applied until a quarter of an hour after the instillation of atropine, lest the solution should be absorbed and removed from the eye.

When the inflammatory symptoms are rapidly subsiding, the mercury, and probably the opium, may be entirely laid aside. But the continued use of atropine is necessary in order to prevent relapse; and the pupil should be kept fully dilated until the eye is quite well. As long as the pupil is dilated the eye does not participate in the functional changes of its fellow, to which, therefore, moderate use may be permitted. An attack of any severity usually leaves behind a temporary proneness to conjunctival irritation, which the atropine may often assist to keep up. For this the cautious use of a mild astringent, such as a lotion containing a grain of sulphate of zinc to the ounce, will usually be found effectual; and it will often be desirable to protect the eye from glare, wind, and dust, after a severe attack, by the use of blue glasses. These are now made of a watch-glass form, for the purpose of excluding side light.

The consideration of the conditions in which iritis, although present, forms only a part of the malady, and is complicated by inflammation of the cornea, of the choroid, or of the vitreous body, as well as of the forms of iritis which are truly and specifically syphilitic, would lead me beyond the limits within which the present paper must be confined. Such conditions are, fortunately, comparatively rare; and are therefore of less practical importance than the very common disease to which the foregoing remarks have been restricted.

ON INDISCRIMINATE STIMULATION IN CHRONIC DISEASE.

BY DR. ANSTIE.

Of late years, and especially since the death of Dr. Todd, there has been no phrase more current in medical literature, no cheaper and more facile epithet with which to brand a mode of treatment not "understanded of the people," than the expression "indiscriminate stimulation." So long as the great advocate of alcoholic medication was alive, a certain prudent reticence distinguished most of those who from time to time objected to his doctrines. But his death liberated a hundred tongues and pens, and a chorus of reproach arose against his memory. He, forsooth, was the great heretic, who had departed from all sound and reasonable doctrine, and had promulgated a system of treatment which not only was disastrous in its effect upon disease, but undermined the morals of the patients and left them a prey to the vice of drinking, even if they escaped immediate death. The cry was an alarming one, and coupled with the almost simultaneous publication of the researches of Lallemand, which seemed to prove alcohol to be no food but altogether a poison, it undoubtedly produced a great reaction. The history of this reaction is one of the strangest things to be found even in medical annals; and if those cynical writers, who delight to expose the illogical habits of thought and argument which are the too frequently just reproach of medical authors, should ever realize the actual fluctuations of medical opinion during the last eight years, on this all-important topic of stimulation, it is to be feared they will make themselves more signally unpleasant than ever, by their criticisms. The whole affair is admirably illustrative of the vulgar proverb, "out of the frying pan into the fire:" but the results are by no means matter for joking. I seriously believe that the unreasonable terror of the doctrines of Todd which has prevailed during the last few years, instead of putting an end to an indiscriminate system of stimulation, has simply tended to divert the medical use of alcohol into new and more dangerous channels, and it is the object of the present paper briefly to indicate how this has happened.

The reactionists against Todd committed three mistakes:—

1. They failed to understand the real essence of his teaching as regards the medical use of alcohol.

2. They accepted the rash and ungrounded conclusion of Lallemand, that alcohol was not a food, without anything like sufficient inquiry.

3. They brought back from the grave a spectre which Todd had apparently laid, viz. the metaphysical idea of stimulus and recoil.

1. The essential part of Todd's teaching as regards the therapeutic use of alcohol was this: that whereas this agent had been supposed upon *à priori* grounds to be specially mischievous in cases of febrile disturbance and so-called "excitement," it was really more frequently useful in these circumstances than in conditions of languor and depression with slow pulse and cool skin. To speak of this doctrine as one calculated to increase the total quantity of alcohol consumed under medical orders is to commit an error which a very slight amount of consideration would have prevented. I am not concerned, either here or in any other place, to defend Dr. Todd from the charge that in actual practice he gave excessive and injurious quantities of alcohol in *acute* diseases; but at least I can say this, That the theory which he taught inculcated no routine use of the remedy, even in those maladies; while as regards the multitude of *chronic* diseases, which make up the great bulk of practice, his doctrines had no inherent tendency to inculcate the frequent use of alcohol. In fact, the whole tone of his physiological teaching about alcohol was to regard it as a combustion food with (possibly some capacity, also, to aid the nutrition of the nervous system) which was specially applicable as a substitute for other foods *in the pyrexial state;* and the true tendency of his doctrine, whatever

may have been done in practice by himself (or more likely by followers who only partly understood him) was rather towards a scientific limitation of the use of alcoholic stimulants, than to an indiscriminate extension of it.

2. In their hurried acceptance of the conclusion of Lallemand, that alcohol is not a food at all, English physicians and physiologists committed an error of judgment which seems almost incredible, so little excuse was there for it. I venture to say that there hardly ever was, in the history of physiology, a more complete want of connexion between the observations and the conclusions of an inquirer; for while the observed facts proved absolutely nothing more than that *some* alcohol was eliminated unchanged from the body, and did not even include an attempt at quantitative evidence, the conclusion was: "Ergo *all* the alcohol taken into the body, under any circumstances, is eliminated unchanged; and alcohol is not a food at all!" Such as it was, however, the profession in this country for the most part accepted this conclusion entire, without a moment's hesitation.

3. The worst mistake of all, however, was the revival of the miserable old metaphysical fiction about stimulus and recoil. It is not easy to make everybody at once perceive the widespread mischief which can be caused by a mere idea like this; yet the facts are positive, and are forcing themselves upon the notice of many. The direct tendency of the theory which reckons alcohol a "mere stimulant," incapable by its decomposition of adding anything to the permanent forces of the body, is to encourage its use in states of chronic feebleness marked by outward signs which are the reverse of those of the febrile state, and more especially for conditions of nervous exhaustion complicated with mental depression. For here the notion is, that we require a mere fillip to the nervous system, to enable it to take advantage of the more potent and lasting influences of tonic medicines and regimen; and this special stimulus or spur it is supposed that alcohol can best supply. Now I have no intention of denying, on the contrary I distinctly believe, that in most, if not all constitutions (with the exception of those persons—*fortunati nimium!*—who live tranquil lives, free from anxiety, and with abundant opportunities of imbibing fresh air and taking pleasant and healthful

physical exercise), a certain limited daily quantum of alcohol is a valuable if not indispensable article of diet. But I am convinced that in no way can this employment of alcohol be placed upon a basis which affords ground for intelligent regulation, as to quantity and time of administration, except by regarding alcoholic beverages as a variety of hydrocarbonaceous food with peculiar physiological relations which only admit of its being usefully appropriated by the organism under strict limitations as to quantity; and I have even arrived by physiological experiment at a rough but apparently useful rule as to the daily average allowance of absolute alcohol which can be beneficially taken by a healthy adult man. No doubt there are considerable differences, as to this, between different healthy individuals; but on the whole there is a remarkable uniformity in the appearance of certain morbid phenomena in persons previously healthy who exceed the daily allowance of from one ounce to one ounce and a half of absolute alcohol, in whatever shape it be taken. The peculiarity of the *febrile* state is, that in many instances it entirely changes these relations between alcohol and the organism, so that from three to six or even twelve times as much of the former can be taken without producing any of the morbid phenomena alluded to; and it is precisely when, and only so long as, this *tolerance* is exhibited, that alcohol is useful in pyrexia; the moment it ceases to act in this way it becomes pernicious, and must be diminished or discontinued under penalty of serious damage to the patient's chances of recovery. Now is there really any similar tolerance for unusual quantities of alcohol in conditions of debility *not* attended with fever? I believe that, with certain exceptions to be presently specified, there is no such tolerance; and that the common notion that the allowance of alcohol should be directly proportioned to the depth of debility—*merely as such*—has worked and is working very great mischief. To my certain knowledge, there are medical men, in extensive practice, who from a mere metaphysical belief that "stimulants must increase fever" would most unreasonably shrink from giving a few ounces of wine to a patient who had a red face and a bounding pulse, (both of them signs of *lowered arterial tension*, by the way!) who do not hesitate to give the most random and inexact recommendations of "plenty of port-wine" to hysterical women, with results which are disastrous to the last degree. Surely it is against these men that the charge of "indiscriminate stimulation" may be justly brought; and we of the school of Todd, who have borne for years past the unmerited obloquy of a supposed tendency to reckless stimulation in disease which was no real part either of our teacher's doctrine or of our own practice, have a right to insist that justice shall be done, and a mischievous popular belief corrected.

It will be well to begin our criticism of stimulation in chronic disease with an enumeration of the undoubted instances in which there is a distinct toleration for large doses of alcohol. 1. There assuredly is a marked tolerance of this kind in many cases of chronic debility which have been induced by one or more copious *hæmorrhages.* 2. There is a variety of pulmonary phthisis, especially common in persons with delicate skin and slight frame, with marked tendency to colliquative sweating, and a notable inability to assimilate either ordinary foods or fatty matter of any kind, in which the tolerance for large and long-continued doses of alcohol is very remarkable, and the benefit produced by such treatment is very great. 3. In certain chronic neuralgias of the aged, where the power of digesting ordinary food is almost suspended by reflex irritation, an almost exclusively alcoholic diet continued for some time occasionally works wonders. 4. In certain infantile chronic diseases, attended with marasmus and an inability to digest ordinary food, small and frequent doses of alcohol, continued for some weeks, produce a remarkable revolution in the general condition.

In all the above instances there is a very notable tolerance of alcohol, and an absence of intoxicative symptoms, under the use of doses which are apparently very considerable.

We turn now to the other side of the account, and the facts we meet with here deserve the most serious consideration of the profession. There are two vast groups of neuroses, the neuralgic and the convulsive, and a third which includes the thousand and one forms of hysteria and of hypochondriasis, for which alcohol is frequently prescribed with a recklessness that to me is both surprising and alarming. Medical science has made the discovery within the last few years that pain, convulsion, and mental disturbance *always*, and not merely sometimes, imply a lowered rather than a heightened vital power. The fact itself is important and valuable, but the practical conclusions which many physicians deduce from it appear to me disastrous. The diseases in question are "nervous;" it is the nervous power, then, which is to be upheld; and a so-called "stimulant" is supposed to be the especially appropriate remedy. But the very hypothesis of the opponents of Todd's ideas is that a stimulant has no permanent influence on the forces of the body, it contributes nothing but a momentary spur to function; it must therefore be frequently repeated to be of any use; and the greater the depression the larger the dose necessary to rouse the failing organism.

We arrive then at this result, which would be grotesque if it were not most unfortunate: That for the very same purely theoretical reason that makes them reject alcohol in acute diseases, and especially decry its use in large doses, a very influential sect of physicians are in the daily practice of recommending its free use in circumstances of chronic disease, where it assuredly can produce mischief of the most permanent kind. The opponents of Todd say, that there are two dangers in the use of alcohol in acute disease: first, that it endangers life; and second, that if life be spared the tendency to drunken habits is left behind. Putting aside the first of these accusations—which, however, I should entirely deny, as applied to the intelligent application of Todd's principles—let us deal with the second. It is not true, I believe, that the administration of alcohol to patients in acute diseases is *pleasant* to them; on the contrary, the perpetual dosing with wine or brandy, which is necessary in a certain proportion of cases, is almost uniformly most distasteful, except with inveterate topers, and sometimes even to them. Whether the alcoholic beverages do good or harm, at least they are not liked, in the great majority of cases, and the patient is left, at the end of the treatment, with a loathing instead of a love for them. Still they can be got down, and retained on the stomach, so long as tolerance, or absence of intoxicative consequences, is observed. But a time comes when this physiological tolerance ceases, and along with its cessation there almost always comes a positive shuddering dislike, and often a downright refusal, of the stronger alcoholic beverages. The convalescent may relish *beer* in moderation, but in my experience he almost always hates the idea of wine or brandy. There is no statement which has ever surprised me more, by its entire want of correspondence with the facts of my own experience, than this very common assertion, that stimulation in acute disease is apt to create a subsequent tendency to drinking. The case is vastly otherwise, however, in chronic or nervous diseases, especially those attended with much mental depression. The great majority of these patients either at once, or very readily, develop a strong liking for alcoholic beverages ; a liking, too, which is precisely of the most dangerous kind. I cannot take a better illustrative instance than that which is unfortunately so very common—the case of women who, whether married or not, have difficult and painful menstrual periods, accompanied with neuralgic pain and hysteric depression of spirits. If ever there were a case in which the physician may make himself, in the most tragic sense, the evil genius of his patient, it is this. The woman has pain, or spasm, or both, and the doctor tells her that brandy will relieve these symptoms, which is true enough. It is also true, that if the brandy could be administered strictly as a medicine, regulated to the minimum dose which was necessary, no harm would be done, though no permanent cure could be expected. But if it be left to the patient herself to settle the dose, there is the greatest danger that she will exceed the necessary quantity, and instead of taking a moderate stimulant dose, which would relieve pain without narcotising, will take a quantity which produces semi-intoxication. There is no more dangerous trial, for a female who is subject to these periodic attacks of pain and depression, than that first experience of alcoholic narcotism. In such circumstances it is a melancholy fact, that the *oblivion* of slight drunkenness is most seductive ; and the chances are great that on the recurrence of the same symptoms the patient will long, with increasing eagerness on each successive occasion, for the same luxurious stupefaction. Let no one think that this warning is the expression of fears based on mere imagination ; my own experience has supplied only too many instances of the reality of the danger, and inquiry among physicians whose practice in nervous diseases is large has added greatly to the strength of my convictions. I have for a long time made it a rule *never* to recommend, or even allow, a patient subject to ovarian neuralgia to take alcohol at all, except in the ordinary quantities *with meals.* Pain and nervous depression is best quieted with small subcutaneous injections of morphia, or, still better, of atropia. It is a very bad precedent to permit a woman to take alcohol for the mere momentary relief of pain or depression.

Although the instance above cited is, perhaps, the most striking illustration of the dangers of indiscriminate stimulation in chronic disease, there are many others scarcely less important. The whole group of chronic painful and convulsive disorders stands in the same relation to alcohol. The remedy can be administered strictly *as a medicine,* in small stimulant doses, with good effect. But there are moral elements in the case which we cannot, without grave peril, leave out of sight. The patients are very generally weak in their power of mental resistance, so that to expose them to a temptation is more than usually dangerous. Some persons will be surprised at this statement, and no doubt there are splendid exceptions to be found in individual cases; but I am convinced that the rule is such as has been stated. To the few who bear up heroically, and with undiminished intellectual and moral force, against chronic pain and mental misery, must be opposed an overwhelming majority who do not bear up at all, or who do so only by drowning their troubles either in actual physical narcotism, or else in some factitious emotional intoxication, which is nearly or quite as bad as the other. Therefore, to put such an agent as alcohol into the hands of such persons, or in any way to encourage their taking it at other than the usual mealtimes, under the restraint of the presence of other persons, is to court danger in a most direct manner.

It seems to me that there are two rules, the observance of which ought to become general, and only to be departed from under very special circumstances. One is that alcohol should never be directly prescribed for the relief of chronic pain, convulsion, or spasm, during the *self-conscious* period of life. In infancy and early childhood it is quite possible to administer it exactly as one would a medicine, without leaving the faintest trace of a hankering after its illegitimate effects. In the old age of those who have led temperate lives, but have habitually used alcohol, it may also be possible to permit the somewhat freer use of it. But during the whole of that period which corresponds to the sexual life, especially in women, the organism is so exquisitely alive to its own emotions, that the effect of a false step in the direction of narcotic indulgence may be tremendous. A second rule is that never, under any circumstances where it is possible to avoid it, should alcohol be given for the class of maladies we are considering, in larger quantities than those already roughly indicated as the limits of its useful *dietetic* employment in health. There is no true physiological tolerance for it in these cases; even in the instance of severe and agonizing pain, in which large doses of brandy may be swallowed without any apparent drunkenness, the appearance of considerable quantities of unchanged alcohol in the urine, and the occurrence of after headache, &c., show that there has been true narcotic poisoning. And the relief of such pain (*e.g.* angina pectoris, severe ovarian neuralgia) may be better and more speedily accomplished by the use of ether, or of morphia or atropia subcutaneously injected. And as for the whole series of chronic convulsive disorders, and of the mental states which hover between hysteria and insanity, I am convinced that everything which can be done in a more special direction than that of careful improvement of nutrition can be far better effected by bromide of potassium, than by the most liberal use, or as I should call it abuse, of alcohol.

Reviews.

De la Polyurie (Diabète insipide): Thèse presentée au Concours pour l'Agrégation. Par le Dr. E. LANCEREAUX. Paris: Delahaye, 1869. 8vo. pp. 88.

(*On Polyuria, or Diabetes Insipidus.* By Dr. E. LANCEREAUX.)

THE only part of this interesting treatise which we shall notice are the concluding pages on treatment. This chapter must, however, be read by the light of the author's main pathological theory; viz. that abnormal flow of urine and abnormal thirst are two associated phenomena, of which the former and more important depends on a *nervous influence.* Consequently he believes that remedies should be addressed to the nervous system, and especially to particular and special centres. He instances the remarkable effects obtained by Muhrbeck, Rayer, and Trousseau, with the use of valerian, belladonna, camphor, and castor; especially with valerian: he cites a striking recent instance of the good effects of the last, from the clinique of Professor Behier, and a somewhat less remarkable one observed by Dr. Keith. Camphor he thinks well of, though not so highly as of valerian. Castor and assafœtida seem to be only doubtfully useful; and no more than this can be said of opium, though it has seemed to do real good in some cases. Turpentine, copaiba, sal prunella, ergot of rye, and iodide of potassium, are all dismissed with a pretty similar estimation. A very remarkable case is quoted from Seidel, of the effects of *galvanism*, in which the poles of a powerful battery were respectively applied to the side of the spine and to the corresponding hypochondrium, with the effect of producing a rapid, large, and permanent reduction of the quantity of urine. The treatment with iron and mineral acids which is so much in use in England is not believed by Lancereaux to produce anything more than amelioration. Nevertheless, on this, combined with good feeding, a sufficient allowance of fluids, baths, and other means of exciting the skin, he would appear to place the chief reliance. With the one exception of valerian he does not speak warmly of any specific treatment.

Considérations sur les Résultats de la Paracentèse dans la Pleuresie purulente. Par le Dr. ARISTIDE ATTIMONT. Paris: Lé François, 1869.

(*Considerations on the Results of Paracentese Empyema.* By Dr. A. ATTIMONT.)

ONE might have thought that, in the case of empyema at least, there was little that could now be added to the elaborate and copious disquisitions which have appeared on the value of paracentesis, and on the best methods of performing it. The reader will, however, find this little treatise of real value. It is a good résumé of what has been done, and of the actual state of our knowledge on the subject, with perhaps a tendency to under-estimate rather than to exaggerate the proportion of successful results which may be obtained by able practitioners. However, this is a fault on the right side.

Étude critique des diverses Médications employés contre la Diabète sucré. Par PAUL BROUARDEL. Paris: Pluralier, 1869. 8vo. pp. 188.

(*A Critical Study of the different Modes of Treatment employed in Diabetes Mellitus.* By PAUL BROUARDEL.)

THIS work is a review of the various forms of treatment which have been at one time or another proposed for the cure or relief of diabetes, but we must say that the conclusions at which it arrives are somewhat lame and impotent. It was hardly worth while to expend so much pains in order to effect so little. The most important conclusion to which M. Brouardel comes is that the most curable forms of diabetes are those from nervous causes, and those which depend on hygienic faults, and especially on a too rich diet with insufficient muscular exercise. The author's remarks on the disputed question as to the effect of a largely azotised diet seem to us very undecided and generally disappointing. But above all we are surprised that he pays no attention to the remarkable observations which have been made quite lately on the influence of opium upon the disease. It is really a matter of just reproach to our French neighbours that they are so very long in hearing of what passes in this country. The opinion of Bouchardat, upon which M. Brouardel founds the dogmatic statement that opium is only a remedy which modifies the accidental complications of diabetes, certainly requires to be reconsidered in the light of recent English experience.

One matter of real interest in the book is the trial by M. Brouardel of the arsenic treatment, based on the researches of Saikowsky, and which Professor Leube has lately found very successful (*vide Deutsches Arch. f. Klin. Med.*, and *Practitioner*, May). M. Brouardel tried the treatment on one patient, but met with no success; in fact the sugar increased. As, however, it is very easy to watch and control the physiological action of arsenic, he thinks that the experiment should be repeated. It is quite possible that the treatment is exclusively appropriate to a special group of cases, in which the original cause of the saccharine urine resides in the liver.

Die therapeutische Anwendung des kaltes Wassers bei fieberhaften Krankheiten. Kritisch bearbeitet von Dr. FRIEDRICH KÜCHENMEISTER. Berlin, 1869. Hirschwald, Gr. 8. Price 4*s.* 6*d.*

(*The Therapeutical Application of Cold Water in Febrile Diseases.* By Dr. F. KÜCHENMEISTER.)

IT is an extraordinary thing that the regular medical profession of this country should take so little heed as it does of the important questions relating to the cold water treatment of disease. We leave to the uneducated persons who call themselves hydropathists the whole working of a method of treatment which is very powerful both for good and harm, and also requires scientific training to appreciate its results with any accuracy; we are consequently left without any reliable records of the value of this or the other variety of hydrotherapeia. There is at least one branch of the subject, however, which the English medical profession must surely soon grapple with; namely, that which forms the subject of the above-named work. The recent foreign literature on this question is most extensive,[1] but Dr. Küchenmeister, whose work is chiefly a careful compilation, destined to disentangle the confusions and complications of the subject, so as to present it in a manageable form to the student and the busy practitioner, comes to a conclusion which aggravates the reproach justly attaching to the profession in this country, for their present neglect of hydrotherapy. He shows that, after all said and done by the recent German observers in the cold water treatment of fever, the very latest researches do little more than confirm and somewhat simplify the results obtained long ago by an English author—Currie—whose discoveries, made with infinite pains, and under all the obstacles due to imperfect machinery of observation, really laid the whole foundation for a rational use of the method. With a candour which deserves all praise, our author points out that nearly every reproach which has been levelled by recent writers at the accuracy of Currie's observations is an error, based on imperfect and careless study of his work; and especially remarks, that the temperature of 120° Fahrenheit, once mentioned in Currie's book as having been observed in fever, was not taken from his own experience, and that he expressly intimates his doubt of its accuracy, on account of its being opposed to all his own experience.

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[1] Our readers will remember that some months ago we mentioned the extensive researches into the cold water treatment of typhoid fever which were made by Liebermeister at Basle. These researches have since been published by MM. Liebermeister and Hagenbach in a volume of the highest merit, which we propose to review on a future occasion. Taken together with the treatise of Jürgensen, published in 1866, they form a most remarkable body of evidence on the subject.

Dr. Küchenmeister's volume is a handy and useful summary of the results which may be said to be guaranteed on trustworthy authority. As regards the treatment of typhoid fever, he sums up these conclusions to something like the following purpose. Cold water is no panacea for typhoid; it does not prevent death in a certain proportion of cases. Applied early (during the first week), it never causes the fever to abort altogether; but there is a general consensus of authorities to the effect that it prevents the fever from taking a severe course, limits the tendency to complications, especially the more dangerous ones, and makes the convalescence easier and more rapid. The defervescence stage also appears to be particularly shortened. Though the *early* application of the method is most strikingly useful, still it is not without great value, in some cases, in *later* stages, with very high temperatures. The cold water treatment certainly moderates the mortality from typhoid, though it does not abolish it. Thermometry affords the best indications for the cold water treatment; as soon as the temperature rises permanently above 102·5° Fahrenheit, or higher, the treatment is to be employed, and repeated frequently so long as the thermometer stands at, or higher than, the above temperature. The chief effect of the bath is the lowering of temperature: this lowering does not reach its maximum immediately after the bath. The greater the degree of cold, and the earlier it is applied, the greater (usually) is the result; the severer the course of the disease, the more energetic must be the cooling treatment. The diminution of bodily heat appears to be largely due to the excitement of skin transpiration, which the bath brings about when it acts favourably: if the skin be already perspiring, there is no need for the artificial cooling. The simultaneous use of quinine in large doses, as an antipyretic, is recommended; and it is said that quinine alone often fails to act in this way till after the cold water treatment has been applied, but then acts strikingly.

Among the many different methods of applying the cold water treatment in fever, Küchenmeister gives the preference to Currie's cold affusion—the patient merely sitting in an empty tub, and having cold water poured over him. This is especially useful when there are severe cerebral symptoms with depression of the motor energy of brain and cord; threatening paralysis of the heart; or the severe degrees of bronchial complication, with passive collection of large quantities of thick secretion in the tubes; or pneumonia, bloody expectoration, &c. If the sitz bath be used, the patient must have his whole chest well rubbed, as he sits in the tub, with towels, until the skin becomes red.

The cold plunge bath alone, without affusion, answers well for the medium and the slight cases. When the patient is seen for the first time at too late a period for the favourable application of the *cold bath*, repeated tepid sponging of the whole body, or tepid affusion, is recommended. Patients who suffer from *rigors* when seated in the tub should have a hot brick wrapped in flannel applied beneath their feet.

A variety of minute details—all, in fact, that any practitioner could wish to know—are given about these and other varieties of the cold water treatment in typhoid. In an appendix there are also some very interesting records of its use in scarlatina and other febrile disorders, in certain neuroses, in phthisis, and in puerperal diseases. We fancy it will startle most English physicians to be told, *inter alia* (as indeed Currie had already asserted), that by consent of all the best observers the use of the *cold* plunge and the *cold* affusion during the menstrual flow does not at all check it; though there is some ground for thinking that tepid baths do. In conclusion we recommend Dr. Küchenmeister's book as a compendium of a great deal of information not generally possessed by practitioners in this country.

Étude sur le Croup après la Trachéotomie. Par le Dr. Sanné, Ancien Interne des Hôpitaux de Paris, &c. Paris: Germer-Baillière. 8vo. pp. 274.

(*A Study of Croup after Tracheotomy.* By Dr. Sanné.)

This book is a thoroughly sound and creditable piece of work; and besides its obvious practical value, gives occasion for some serious reflections on the great room there is for improvement in certain departments of our English system of clinical training for the select class of students by whom the higher ranks of the medical profession must be ultimately filled. The author is a former *interne* of the Paris hospitals, and his book is a first-rate illustration of the splendid advantages which that office affords to a young man who is willing to work. Dr. Sanné was *interne* at Saint Eugénie in 1868, a year in which the affection of which he treats raged with exceptional severity, and tracheotomy was performed a great number of times in the wards of M. Barthez. His personal experience includes eighty-three operated cases, which he was able to watch and to treat through all their stages; and to these he has added a much larger number, of which M. Barthez gave him the records, so that he bases his remarks and conclusions on the very considerable total of 662 cases of tracheotomy in croup. It may well be desired that such magnificent opportunities for the study of particular diseases on the large scale were within the reach of our English house-surgeons, and that the previous training of those officers were such as to enable them to make such a scientific use of them as M. Sanné has done.

The plan of the book is very good. The author traces, first, the whole after-history of uncomplicated croup going on to cure after operation. In the second part he describes the complications which may result distinctly from the operation. The third and final section of his work is occupied with elaborate clinical histories of thirty-one selected cases. Everywhere we find evidence of a careful and practical study of details which shows that the writer is familiar with every aspect of his subject, with one exception; which is, however, an important one. Whether it be from a want of acquaintance with English authors, or from a deliberate adherence to the doctrine that diphtheria and croup are only variations of one disease, he nowhere recognises the fact that a large proportion of his cases must have been diphtheric in the genuine sense of the word; a circumstance which of course altogether alters the significance of ratio of mortality, and renders it difficult to judge of the real value of the subsidiary treatment, the mode of alimentation, &c., which he recommends. One remark, moreover, it is impossible to avoid, viz. that notwithstanding the great advance which French physicians have made, since the days of Trousseau, towards a more rational system of treatment in diphtheria, they still retain some superstitions. Else, why does M. Sanné only venture to prescribe quinine "when the fever begins to diminish"?

Essentials of the Principles and Practice of Medicine. A Handbook for Students and Practitioners. By HENRY HARTSHORNE, M.D., Professor of Hygiene in the University of Pennsylvania, &c. &c. Second Edition. Philadelphia: Henry C. Lee. London: Trübner & Co., 1869.

IT is with a very mixed feeling that we sit down to criticise this book, after reading it with a good deal of care. We may say at once, that its title would considerably mislead any one who casually took it up; for it by no means belongs to the numerous class of manuals which are constructed on the rudest principles of compilation, and without any intelligible principle of selection, but merely with a view to the production of something saleable. It is, on the contrary, a perfectly individual book; the author having made a genuine effort to assimilate, and not merely swallow whole, the researches of the moderns, as well as the dogmas of the ancients. His book also shows evidence of a laudable desire to appreciate the historical development of medical opinion; an unspeakably important matter, to which the present generation of medical men are for the most part culpably indifferent. Moreover he shows a hearty dislike of the dilettante-expectant attitude in therapeutics, so fashionable in the present day, which earns our most unfeigned sympathy. Yet we cannot say that we think this an altogether satisfactory volume. In the first place, the author has set himself an obviously impossible task in endeavouring to compress within the limits of a tiny handbook such a view of general medicine as he labours hard to present to his readers. And in regard to the practical part of the volume, which alone immediately interests us, we cannot honestly credit him with a success. He is very painstaking and (as becomes the writer of a manual) sufficiently dogmatic. But he entertains certain physiological ideas which appear to us fatal to his chance of establishing a rational system of therapeutics. Upon the subject of inflammation, for instance, he holds views as to the *active* functions of the blood-vessels for which there really is no evidence whatever; and these pathological views conduct him to an antiphlogistic treatment which we cannot but consider retrograde and inappropriate to the present day. How many times over must that monster—the fiction of a rhythmic propelling power of the arterioles—be slain? We declare that we really cannot bring ourselves to go through the process. With all our respect for the author, we feel inclined to treat his pet theory as Sam Weller did the fat boy when he ventured to express an admiration for the pretty housemaid—dismiss it with a harmless but ceremonious kick. Be it known, then, unto Dr. Hartshorne, that it is not (as he seems to think) only one Brown-Séquard who holds the doctrine that the muscular powers of the arterioles are exerted only in the direction of *restraining* the flow of blood through those vessels; and that, for instance, if he will condescend to study the works of a not altogether unknown person called Marey, he will find the physical proof of this theory, which he thinks so heretical, worked out with a copiousness of illustration that contrasts somewhat strikingly with his own rather vague assertions. Considering the doubtful physiological basis on which Dr. Hartshorne's continued adherence to phlebotomy is based, we cannot wonder at, indeed we expressly approve, the name of "balancive" which he applies to the group of remedies in which he includes blood-letting. So great must be the difficulty which his theory experiences in "balancing" itself upon this precarious foundation, that even in America, where perilous performances are common and popular, there must be an uneasy consciousness that it can hardly avoid toppling over.

Two Cases of Œsophagotomy for the Removal of Foreign Bodies: with a History of the Operation. Second Edition, revised, with an additional case. By David W. Chever, M.D., Adjunct Professor of Clinical Surgery in Harvard University, &c.

This book gives very interesting accounts of three cases in which the operation of opening the œsophagus to search for obstructing foreign bodies was performed. All three recovered; in two the obstruction was removed, in the third no foreign body could be discovered. We think that the author makes out a really strong case, both from his own experience and by careful analysis of all the cases yet put on record, in favour of the early performance of œsophagotomy in all cases where the bougie or the snare cannot either push down or pull up the impacted foreign body. Certainly there seems no reason to regard the operation with such an extreme dread as many surgical writers have evinced in speaking of it in their treatises. It has been spoken of as a doubtful *pis aller;* it will probably become the regular procedure in a considerable number of cases.

An Introduction to the Elements of Pharmacy; or, the "Major and Minor Examinations." By F. Harwood Lescher, Pareira Medallist. London: Churchill, 1869. 8vo. pp. 194.

This volume is a surprising work of industry; and the intention with which it has been compiled is most praiseworthy. It is an attempt to give to the students of pharmacy who are to be dispensing chemists a broad general knowledge of the "principal points in *materia medica,* botany, chemistry, pharmacy, prescriptions, and practical dispensing." The author wishes both to raise pharmacy itself to a higher rank and to claim for the student of pharmacy a higher intellectual position and a more extended field of study. To this end he has tried to break ground for the beginner by presenting him a tabulated arrangement of the subjects above-named, in such a way that he may obtain a bird's-eye view of the whole field of scientific knowledge with which he is concerned, and at the same time to allure him to a fuller study of the special subjects in the perusal of more elaborate treatises. Supposing the plan to be one which is really adapted to lead pharmaceutical students on this path, Mr. Lescher has undoubtedly carried it out very well. We hesitate to decide whether the plan is or is not the best possible, for two reasons: first, that we have no such tutorial acquaintance with the class of gentlemen for whom the book is intended as might enable us to judge how far it suits their style of mind and their special faculties of learning; and second, that we have, personally, a rooted aversion to the study of tabular statements of all kinds, which is probably our own special share of the original wickedness common to the human race. All we can say is, that if our young pharmaceutists, after nourishing their adolescent intellects upon Mr. Lescher's book, do really proceed to enjoy the more copious banquets provided for them by Royle and Pareira and Headland, their minds will be well nourished indeed. May good digestion wait on appetite! But we can well fancy some stern old druggist of the primitive school reproaching them with intellectual *gourmandise,* in some such fashion as the Roman satirist rebuked the ever-growing luxury of his time. That grumbling *censor morum* remarked, that whereas preceding generations had been content to make the salad the culminating dish of the *cœna,* his contemporaries merely introduced it as a whet, preliminary to more serious eating. And it is certainly a remarkable sign of the present times that Mr. Lescher's tables, well spread with therapeutic vegetables, *non sine sale,* are only considered to display the *first* course of the pharmaceutical feast.

The Baths and Wells of Europe; their Action and Uses. With Hints on Change of Air and Diet Cures. By JOHN MACPHERSON, M.D. With a Map. London: Macmillan & Co. 1869.

THIS treatise is a handbook of an important subject, and treats that subject from a somewhat novel point of view. Dr. Macpherson, whose researches with regard to cholera, made while he was in India, were well known and highly appreciated, has been struck with the necessity of giving a more general view of the mineral water resources of Europe than is supplied by any existing book; at least, by any accessible to English people. He does not attempt to supply minutely exact information as to the chemical constitution of the several waters; but, on the other hand, he furnishes a sufficient outline of their composition, and brings into one general view the properties and practical uses of an immense number of baths, in situations so varied as to suit the numerous kinds of wants, and even whimsies, of every variety of patients. There is a good deal of information in this volume about many excellent baths which combine real medical virtues, with another equally important—the merit of taking their visitors into beautiful and out-of-the-way scenery. Dr.

Macpherson gives a general account of all the *baths*:—indifferent and earthy; sulphur; salt; and of artificial baths and inhalations, including peat water, pine balsam, wine-dregs, whey, and the many varieties of gaseous baths and inhalations. Of *wells* he also gives a complete list:—indifferent and earthy; sulphur; salt; alkaline; purgative; ferruginous; and a chapter on the effects of waters which contain minute quantities of salts and carbonic acid; besides various chapters on the general subject of bathing and bath life, on the effects of the external use of water merely, &c. &c. The usefulness of the book is much enhanced by a map, which gives at a glance the situations of all the European baths, with their relations to the great lines of railway.

Pennsylvania Hospital Reports, 1869. Philadelphia: Lindsay and Blakiston. Price 18*s*.

In this very handsomely-printed volume there are several papers of high interest in a therapeutical point of view. Let us notice first the results of treatment for stone recorded by Dr. T. G. Morton. Of 111 cases of *lithotomy* (105 males, 6 females), 90 were cured, 2 relieved, 1 was convalescent; 18 had died. The mortality at different ages ran thus in 64 cases when the age was recorded:—Under 6 years, 4 died; from 20 to 30 years, 1 died; from 30 to 40, 2 died; from 50 to 60, 2 died. The numbers of patients operated on at different ages ran thus:—Under 5 years, 20; between 5 and 10 years, 14; between 10 and 20 years, 14; between 20 and 30 years, 6; between 30 and 40 years, 4; between 40 and 50 years, 4; between 50 and 60 years, 2. It will be seen that while the general opinion as to the comparative fatality of lithotomy in middle and advanced life is sustained by these figures, the nearly absolute immunity which some attribute to childhood before puberty is by no means borne out. It is curious that, of the 6 cases operated on between 10 and 20 years, not one died, the only decade quite free from mortality. Of lithotrity there were 14 cases, and 2 deaths, both in men between 20 and 30 years.

A very elaborate paper by Dr. J. M. de Costa on the treatment of acute rheumatism by bromide of ammonium, in which he comes to the conclusion that it has an indisputably good effect on the disease when given in large doses (90 grains daily). He says he has also tried it with apparent success in acute muscular rheumatism; and also states that it undoubtedly does produce benefit in chronic rheumatism, though here the iodide of potassium is much superior. He recommends the trial of bromide of ammonium in gout also.

Dr. Edward Hartshorne has an excellent paper on the treatment of oblique fracture of the clavicle; and Dr. John Aspinwall, Jun., on excision of the hip joint, the value of which is much increased by a tabular summary of the results of 242 cases of the operation. We may also mention a most interesting and important paper by Dr. James H. Hutchinson on hypodermic injection of morphia in sunstroke, a mode of treatment which seems to have been successful to a remarkable and unexpected degree. Altogether, this volume is an admirable one, and ought to be in the libraries of all medical societies, and of all practitioners who can afford its rather large price.

Clinic of the Month.

The Alkaline Treatment of Rheumatism.—Mr. Charles H. Robinson, of the Ledwich School of Anatomy, formerly a medical officer in the Peninsular and Oriental Company's service, speaks strongly as to the efficacy of this treatment, and adduces six cases which came under his care at sea. He gave bicarbonate of soda, two drachms three times a day. Case 1 lasted twenty days; case 2, six days; case 3, ten days; case 4, ten days; case 5, twenty-five days; case 6, twelve days: total, eighty-three days. This gives an average duration of a trifle under 14 days, or excluding the sixth case, which was not articular rheumatism, an average duration of 14$\frac{1}{5}$ days each. Mr. Robinson thinks this a great improvement on "flannel and six weeks." (See *Lancet*, June 12.)

New After-treatment in Operations on the Urinary Organs.—Mr. Jessop, of Leeds, brings forward a method by which we may prevent the occurrence of a mishap of which the most experienced surgeons have complained—that after operations for stricture, a catheter being tied into the bladder, the urine nevertheless escapes also by the side of the catheter, and thus irritates the cellular tissue. Mr. Jessop attaches an india-rubber tube, of the size of the catheter and two yards long, to its end, and carries the free extremity of the tube into a vessel under the bed. A continuous drain of the contents of the bladder is thus kept up, no accumulation takes place, and the result is, that in the case of perineal section, *e.g.*, none passes by the wound in the perineum. The advantages of securing such a result are obvious. (See *British Medical Journal*, June 19.)

Cleft Palate successfully operated on in a Girl of Five Years.—An interesting case of successful staphyloraphy has occurred in Mr. W. Adams' practice at the Great Northern Hospital. The fissure was double, extended completely through both hard and soft palates, and was associated with hare lip, having a single fissure into the right nostril. The hard palate was left untouched; the edges of the soft palate were pared, the levator palati divided, and three sutures put in. The gag, or instrument with a tongue plate, and opening by means of cog-wheels, made by Ferguson, and recommended by Mr. Thomas Smith, was used in this case. (See *Lancet*, June 12.)

The Arsenical Treatment of Phthisis.—Mr. Sanger, of the Convalescent Hospital, Seaford, reports very favourably on the action of arsenic in phthisis. His attention was first drawn to the subject by a case in which he administered Fowler's solution to a phthisical patient, with the intention of curing an eczematous eruption; the eczema was not cured, but the pulmonary symptoms were much relieved. The report of MM. Hérard and Moutard-Martin still further impelled him to try the arsenical treatment on the large scale, with the numerous phthisis patients who came to the Convalescent Hospital; and he declares that every patient so treated derived benefit. He gives five minim doses of liq. arsenicalis, or solution of arsenite of soda, twice a day, with a drachm of citrate of iron wine, or five grains of citrate of iron and quinine. Where iron cannot be borne, he gives hyposulphite of soda, in doses of 15 or 20 grains, with the arsenic. (See *Lancet*, June 5.)

Severe Struma benefited by the Waters of Woodhall Spa.—A patient of Mr. Paget's, at St. Bartholomew's, appeared to be in a hopeless state of exhaustion from large strumous abscesses, with diarrhœa and wasting. With great difficulty he was removed to Woodhall Spa, in Lincolnshire, but it was scarcely hoped that he would return alive. He drank six ounces daily of the water, except when the diarrhœa was urgent, and had a bath at 95° for half an hour on alternate days, nourishing diet, &c. The wounds were dressed with lint wrung out of the Woodhall water. Notwithstanding one severe attack of diarrhœa, which endangered his life, he got so much better within one month's residence at the spa, that on his return to London he walked to the hospital. It was then found that he had gained greatly in flesh, strength, and appetite, and his wounds had nearly healed. (Ibid.)

Paracentesis Pericardii.—Dr. Clifford Allbutt reports a case in which this operation was performed with markedly good effect. In a former case, which he had under his care two years and a half since, the success was complete and final; in the present instance the operation only acted as a palliative. The patient was a weakly girl, aged 27, in whom pericarditis with extensive effusion had come on somewhat insidiously, and was causing the greatest distress; it was thought she could not survive the night. However, some stimulants having been administered, the force of the pulse was somewhat increased. Friction sounds were present, but there was such unequivocal evidence, from other physical signs, that there was not merely lymph but a *large* quantity of serous effusion that Dr. Allbutt requested Mr.

Teale to operate. A fine exploring trocar was inserted in the fifth interspace, about an inch from the left border of the sternum; the point was thrust upwards and inwards till it touched the heart. The point was now sheathed, and the canula driven well home, till the heart jerked it two and fro. The canula was then partly withdrawn, and serum began to flow. The tube now slipped a little and the trocar had to be reinserted, to carry it home. The straw-coloured serum now flowed again, escaping rather with the impulse of the lung than of the heart. About five ounces of fluid were drawn off, and the patient experienced great temporary relief. The case had, however, too far gone; there was extensive œdema of the lungs, and on the following day the patient was as bad as ever, and there was so much distress that the puncture had to be repeated. It again gave great relief, though not so great as the first operation had caused, but the patient sank a few hours later from bronchitis and pulmonary œdema. Dr. Allbutt remarks that tapping the pericardium is really a very simple operation; and that there is no reason to fear that a slight accidental wound of the heart would do any harm. On the present occasion a little air accidentally entered the pericardial sac. Dr. Allbutt will in future cases guard against this by connecting the canula with an india-rubber tube whose extremity dips under water. He points to the ready emptying of the sac by the expansion of the lung, in this case, as a refutation of Oppolzer's objection to the operation —that the sac, having no elasticity, and being placed in the unyielding chest-cavity, cannot be properly emptied, or if emptied will refill. (See *Lancet*, June 12.)

Nitrate of Lead for Sore Nipples.—Dr. J. G. Wilson, Professor of Midwifery in the Andersonian University, states that from long experience he has been convinced that this treatment is superior to any other, and that he has often known it succeed, when tannin, gallic acid, zinc, benzoin, borax, &c., failed. The formula is, ℞ plumb. nitrat. gr. x., glycerine ℥i; dissolve. This preparation is to be freely applied to the nipple after suckling; and must be carefully washed off before the infant is allowed to suck again. In severe ulceration or chapping a stronger solution is sometimes required. It may be useful, sometimes, to use a nipple-shield simultaneously; and occasionally nitrate of silver, collodion, or a solution of gutta-percha may be usefully employed as adjuncts, in cases of great obstinacy. (See *Glasgow Medical Journal*, May.)

Carbolic Acid as an Antiseptic, in Obstetric Practice.—Dr. Wilson has been led to use a weak solution of carbolic acid as an antiseptic intra-uterine injection, when puerperal blood-infection seemed impending. He does this, not only when there is actual putridity of discharges, but also when there is reason to suspect the retention of portions of placenta, membrane, &c., which easily might decompose. Dr. Wilson allows, however, that it is difficult to determine the exact amount of credit due to the carbolic acid itself, and how much to the mere washing out of the uterine cavity. (Ibid.)

A New Lithotrite.—Dr. Patrick Heron Watson has invented a new lithotrite by which the crushing of stones of large size can be rapidly performed. He applies leverage to each blade of the lithotrite by means of moveable forceps, in such wise that the closing of the handles approximates the jaws of the lithotrite, and the opening of them, effected by a spring between their shafts, causes the jaws to gape. In this way fragments can be reduced to detritus with far greater rapidity than by any other movement. The movement is also quite as steady and powerful as that effected by means of the screw. (See *Edinburgh Medical Journal*, June.)

New Means of Extension in Fractures of the Femur.—Mr. Stapleton has devised the following plan, which avoids the need for a perineal band. A strong tape, more than twice the length of the Liston's splint, is taken and laid along each side of the splint, being passed through the hole in its upper end, and the extremities being tied together at its lower or notched end ; the ends of the tape are left sufficiently long to hang over the foot of the bed, and to them is attached a weight, which must be regulated according to the amount of force which is to be employed. A broad strip of adhesive plaster is then placed along the inner side of the leg, from below the knee to the foot, a similar one being fixed along its outer border ; the two are knotted together a few inches below the foot, the point of the splint being passed through the loop formed by their junction. The upper end of the splint is then fixed to the body by a roller, and anterior and posterior scored splints having been applied to the thigh, the whole is enveloped in a many-tailed bandage. It will be seen that when the weight which is attached to the splint, and which, from the mode of its fixation, draws evenly on the splint in its whole length, is suspended over the foot of the bed, it will, by pulling on the plaster fastened to the leg and hitched over the fork of the splint, keep up a constant and even extending force, and will moreover, from the mode of its application, tend to hold the splint in position. (See *Medical Press and Circular*, June 2.)

The Piecemeal Excision of Nævi.—Mr. Furneaux Jordan brings forward an operative procedure for the cure of nævi, which he has hitherto only imperfectly described, though he has practised it since 1863. An incision is made through the superjacent skin and through the nævus, so as to completely divide it into two halves. Hæmorrhage is prevented by pressure on the adjacent arterial trunks. In the face, for instance, where the operation is most useful, pressure on the facial or temporal or supraorbital, one or two or all, arrests the bleeding. If pressure on the main trunks do not perfectly arrest all hæmorrhage, one or two points of pressure (with a director) near or even within the incision will. Jordan has often been surprised to find that one or two points of pressure alone sufficed to secure a bloodless condition of a nævoid section. The next step is with clawed forceps and scissors (curved on the flat) to remove each half piecemeal, beginning at the centre, and proceeding to the periphery. There is not the least difficulty in distinguishing the nævoid (capillary, venous, or arterial) from the healthy tissue. The removal of one half should be completed before that of the other is begun. When the nævus is completely removed, there is no hæmorrhage on relaxing the pressure. As a rule, it is quite unnecessary to remove any skin; even if involved, it recovers after the excision of the subjacent nævus. If very much implicated, an elliptical portion of skin may be taken away, so that the edges of the wound can be so brought together as still to leave only a line of cicatrix. Whether any skin be removed or not, the edges of the wound should be brought together with silver wire, and moderate pressure effected by means of a pad of dry lint and a bandage.

Jordan believes piecemeal excision to be the best operation in all cases where it is desirable to save the skin; and these are the great majority of cases. Where it is not desirable to save the skin, as in very pedunculated nævi, or where the skin is extremely implicated over the whole tumour, the *écraseur*, or the ligature, or bodily excision, may be preferable. In using the *écraseur* or the ligature, the circular incision to receive the chain or ligature is most easily and evenly and rapidly made with sharp-pointed scissors, one point being first thrust through the skin.

Piecemeal excision from the centre is applicable in the larger number of cases, and especially in the face and eyelids. It is immediate, complete, safe, and leaves only a linear cicatrix. It removes the nævus, all the nævus, and nothing but the nævus. (See *British Medical Journal*, May 29.)

Results of Acupressure.—Mr. James F. West, senior surgeon of the Queen's Hospital, Birmingham, gives the following table of the results of acupressure in a number of important operations performed at that institution during twelve months (see *British Medical Journal*, June 19):—

Name and age.	Nature of disease or accident.	Operation.	Number of needles employed.	Time of withdrawal of needles after operation.	Remarks.	Date of operation.	Result.
J. A. 8	Scrofulous disease of knee-joint.	Amputation of thigh at junction of middle and upper thirds by Teale's method.	2	50 hours.	No hæmorrhage.	Sept. 3, 1867.	Cured, Nov. 29, 1867.
M. P. 21	Deep and chronic ulcer of thigh from burn.	Double flap-amputation through trochanters.	2	72 ,,	No hæmorrhage.	Dec. 20.	Died from shock, Dec. 24.
T. B. 67	Compound fracture of arm.	Amputation by oval skin flaps, through middle third of arm.	2	72 ,,	No hæmorrhage.	Dec. 27.	Cured, Feb. 14, 1868.
J. H. 13	Acute necrosis of femur and suppuration of knee-joint.	Amputation of thigh at junction of upper and middle thirds by Teale's method.	3	46 ,,	Hæmorrhage after needle withdrawn from femoral. Stopped by digital pressure for a few minutes. Hæmorrhage recurred next day, and arrested by digital pressure on femoral for 5 hours.	Jan. 28, 1868.	Cured, June 12.
P. C. 40	Compound comminuted fracture of leg.	Amputation three inches above knee-joint by oval flaps.	2	48 ,,	No hæmorrhage.	Jan. 30.	Cured, March 3.
F. A. 15	Scrofulous disease of ankle-joint.	Syme's amputation at ankle-joint.	2	48 ,,	No hæmorrhage.	Feb. 15.	Cured, March 31.
E. W. 21	Compound fracture of left thigh and right leg.	Amputation through trochanters of left thigh and immediately below knee-joint of right leg.	4	—	No hæmorrhage.	April 7.	Died, from shock, 6 hours after operation.
S. H. 50	Scirrhus of breast.	Excision of breast.	1	36 ,,	No hæmorrhage.	April 15.	Cured, May 29.
E. B. 43	Scirrhus of breast.	Excision of breast.	2	56 ,,	No hæmorrhage.	April 17.	Cured, May 26.
M. A. R. 42	Scirrhus of breast.	Excision of breast.	1	48 ,,	No hæmorrhage.	April 18.	Cured, June 9.
E. C. 11	Scrofulous disease of ankle-joint.	Syme's amputation.	1	50 ,,	No hæmorrhage.	April 28.	Cured, June 26.
A. C. 15	Dry gangrene of hand.	Amputation through lower third of fore-arm by Teale's method.	1	50 ,,	No hæmorrhage.	May 10.	Cured, June 15.
S. L. 47	Scirrhus of breast.	Excision of breast.	1	52 ,,	No hæmorrhage.	May 22.	Cured, June 13.
F. D. 53	Scirrhus of breast.	Excision of breast.	1	54 ,,	No hæmorrhage.	May 22.	Cured, June 16.
M. A. 52	Scirrhus of breast.	Excision of breast.	2	50 ,,	No hæmorrhage	June 10.	Cured, July 17.
H. H. 17	Comminuted fracture of foot.	Amputation below knee-joint by modified skin flaps.	2	120 ,,	Hæmorrhage on 5th, 20th, 21st, 22d, 23d, 25th, & 42d days, arrested by tourniquet.	June 22.	Cured, Sept. 6.
J. W. 14	Compound comminuted fracture of hand.	Amputation through wrist-joint.	1	48 ,,	No hæmorrhage.	July 20.	Cured, Aug. 21.
C. C. 25	Scirrhus of breast.	Excision of breast.	1	53 ,,	No hæmorrhage.	July 20.	Cured, Aug. 23.
A. N. 15	Wound into knee-joint followed by suppuration.	Teale's amputation in middle third of thigh.	2	48 ,,	No hæmorrhage.	Sept. 2.	Cured.

Extracts from British and Foreign Journals.

Intra-uterine Injections in the treatment of Diseases of the Womb.—Dr. Riegel thus sums up the conclusions of a paper on this subject:— 1. Intra-uterine injections can be employed without any danger whatever, by the observance of certain precautions. 2. Before every injection the sound must be introduced for the purpose of exact diagnosis, and of rectifying flexions which are not complicated with adhesion. 3. It is absolutely necessary, before making an injection, to dilate the cervical canal and os internum sufficiently to allow of a complete digital examination, and the easy escape of the injected fluid. 4. The uterine cavity must always be cleansed from its ordinary secretion before the injection is applied. 5. Ulcerations or granulations of the portio vaginalis, in the cervix, or in the uterine cavity, had best be previously cauterized with nitrate of silver, or similar agents, so as to prevent the other parts from coming into contact with the caustic: however, these ulcers, &c. being only secondary phenomena, readily get well of themselves, when treatment is directed to the primary disease. 6. Peri-uterine affections are not an absolute contra-indication to intra-uterine injections, but the latter can, in such cases; only effect a momentary reduction of particular symptoms, and they may easily prove dangerous. 7. The temperature of the injected fluid must be regulated according to the object of the injection, and in most cases should be almost the normal bodily temperature. 8. Intra-uterine injections are not merely able to arrest for the moment certain symptoms, such as hæmorrhage, but under certain favourable circumstances it becomes possible by their means to moderate, and often to entirely cure, diseases both of the mucous membrane and of the uterine tissue. (*Deutsches Arch. f. klin. Med.* vols. v. and vi.)

The Elimination of Quinine by the Kidneys.—An important series of questions is raised by Dr. H. Thau with regard to quinine. It is notorious that a part of every dose taken escapes in the urine. Dr. Thau asks:—1. How large a proportion of every dose of quinine taken is eliminated? 2. How is the elimination distributed, as to time? 3. In what relation does the elimination stand to the effect of the drug upon the body? As to No. 1, the author's researches give the following results: in *health*, the administration of 6 grammes (94 grains, equal to 70 grains of pure quinine) of sulphate of quinine, in three series of experiments, was followed by elimination of only four per cent. less than the total quantity ingested within forty-eight hours; and the small loss is probably due to some fallacy in the analytic processes. In some subcutaneous injections made on dogs, the author also observed a copious *salivation*, and elimination of small traces of quinine in the saliva. It is plain that the question of Dietl—whether quinine passes quite unchanged through the blood to the nerves?—may be answered in the affirmative (as far as health goes). In typhoid, Thau found that the same thing happened as in health. There is no retention or decomposition of the quinine in the body, and the intestinal disease did not seem to hinder the absorption of such quinine as was not taken up from the stomach. It was remarkable that all the typhoid patients were much less affected by large doses of quinine than healthy persons; but this was explained in another way. As to the second question named above, Thau found, in all his experiments, that in health the elimination was most active during the first six hours after the dose, and was more than half finished by the end of twelve hours. Patients in febrile states also get rid of the larger part of the quinine taken within twelve hours; but, contrary to what happens with the healthy, more is eliminated during the second than during the first half of this period. With regard to the third question, the answer must be doubtful in the case of healthy persons, though the author believes that the durability of the effect of the quinine is in direct proportion to the quantity being eliminated. In diseased persons, where thermometry enables us to make more full and exact researches, the same rule is more clearly shown—the sinking of temperature caused by quinine taking place chiefly during the first twelve hours after the dose. (*Ibid.*)

Inhalation of Oxygen for the relief of Dyspnœa.—Dr. Andrew H. Smith, Lecturer on Therapeutics at Long Island College Hospital, U.S., reports four cases in which oxygen was used with marked effect. The first was one of pulmonary emphysema, dating from childhood. In this the momentary relief was great, but the effect soon passed off. The second was a case of spasmodic asthma; oxygen was administered during a paroxysm with great relief. The third was one of acute rheumatism, "upon which meningitis supervened." The pulse, which had been very rapid, was greatly diminished in frequency at each administration. However, the patient continued to sink, and died. Case 4 was one in which the gas was merely administered to promote the euthanasia of a tuberculous patient dying in great distress from embarrassed breathing, and this object it admirably fulfilled. (*New York Medical Journal*, May.)

The Therapeutic Value of the Cinchona Alkaloids.—The following are the conclusions of a long report drawn up by Professor Ewart, of the Bengal Medical College, on the therapeutic power of quinidina, cinchonidina, and cinchonia. 1. *Quinidina* (*a*) is an excellent antiperiodic in from 20 to 10 or 5 grain doses. It is probably not inferior in power to quinine. It is easily tolerated by the stomach. (*b*) It is a good bitter tonic in from 3 to 5 grain doses. It may be combined with ferruginous tonics in anæmia. (*c*) It is less disagreeable to the taste and stomach than quinine; moreover its action is not accompanied with cinchonism. 2. *Cinchonidina* (*a*) stands next to quinidina in antiperiodic power. Dose, as an antiperiodic, 20 to 10 grains; as a tonic, 5 to 3 grains. (*b*) It is agreeable to the stomach, and is not followed by symptoms analogous to cinchonism. 3. *Cinchonia* (sulphate) is doubtless an antiperiodic, in doses of from 20 to 10 grains. (*b*) The irritability of stomach set up by it is *the* great objection to its ever taking rank as a substitute for either of the preceding alkaloids. (*c*) This may probably be obviated to a certain extent, by employing an efficient solution of it by the hypodermic method. (*Indian Annals of Medical Science*, No. xxv.)

Intestinal Obstruction cured by Enterotomy.—Cases of this kind are so rare that it may be well to mention one which was brought before the Société de Chirurgie by M. L. Thomas of Tours. The operation was performed, as usual, in the right flank, and an enormous mass of fæces escaped from the distended cæcum, which had been sewed to the abdominal wall. In a few days the natural passage through the intestine was re-established, and everything went excellently well up to the twenty-fourth day, when a fresh accumulation of fæces occurred, in the iliac flexure. However, this was removed by the persevering use of enemas with a long tube; and the natural action of the bowels becoming perfectly re-established the artificial opening nearly closed of itself. The cure appears quite permanent. (*Journ. de Méd. et de Chirurg. pratiques*, June.)

The Abortive Treatment of Erysipelas.—The clinical lecture of M. Schützenberger on the arrest of erysipelas by *turpentine* (already quoted in the *Practitioner*) has elicited some remarks on another "abortive" treatment for erysipelas, from M. Luroth. He says that for the last eighteen years he has successfully carried out the following plan:—Whatever the seat of the erysipelas may be, superficial scarifications are made upon it, each of which furnishes a few drops of blood. The cuts for the most part run parallel to each other; but two or three others are made in such a direction as to circumscribe the affected part, so as to form a barrier between it and the sound skin. The blood is smeared gently over the whole erysipelatous surface. This slight operation is usually at once followed by notable relief, not merely of the local symptoms but of the constitutional disturbance. If from ineffectual carrying out of this process the erysipelas overleaps the scarifications, it may be necessary to carry them somewhat further outward. Even where only a part of the erysipelatous surface can be scarified, the intensity of the fever is *pro tanto* reduced; and the proceeding is equally applicable to the simple or to the phlegmonous variety of the disease; even in *phlegmasia alba dolens* the author has found it produce marked relief. He attributes the good results to two things: the division of the skin relieves engorgement, and the blood smeared over the part forms a coagulated layer which protects it from the air. (*Gaz. Méd. de Strasbourg; Bull. Gén.* Juin 15.)

Poisoning with a Lotion of Tobacco.—Dr. Blanchard records a very interesting case in which a man and his wife, desiring to rid themselves of the itch, applied vigorously to their skins a decoction made with 40 or 50 grammes of black soap, and 60 grammes of *tabac en carotte*, to 3 litres of water, boiled down to 2 or 1½ litres. The woman *wiped herself* with some little care, the man with less; and they went to bed; but the symptoms of poisoning soon developed themselves. Both patients were affected; but whereas the woman was chiefly troubled with headache and vomiting, the man was plunged in a profounder depth of narcotism, the symptoms being stupor, viscous sweating, violent pains in the stomach, a sense of excessive coldness, and a constant desire to urinate. There were also jaundice, muscular tremors, and painful cramp, besides constant vomiting and stools resembling those of cholera. Both patients having been *washed*, to prevent further absorption of the poison, coffee with brandy was given, and a mixture containing acetate of ammonia, canella, ether, &c., in small doses every hour. This treatment brought both the patients round: they had each a rubeoloid eruption before complete recovery. (*Bulletin Général de Thérapeutique*, Juin 15.)

Phosphate of Lime in Pregnancy.—American physicians recommend the dietetic use of this salt in pregnancy; as much as will lie on the top of a knife, at or soon after meals. This is for the twofold purpose of subserving fœtal ossification, and also preserving the mother's teeth, which are rather apt to suffer from a process of absorption, during pregnancy. For similar reasons the phosphate is given to suckling women, and especially to children who are artificially fed, in order to prevent rickets, scrofula, and tuberculosis. (*Der Zahnarzt,* 1869. *Der Prakt. Arzt,* Mai.)

Treatment of Syphilitic Waxy Liver.—Dr. Wetzlar, of Aix, lays down the principle that there is no way of cure for syphilitic waxy liver, except by specific treatment. If the patients have as yet taken little or no mercury, this is the principal remedy. The author has himself found corrosive sublimate to be the most rapidly-acting mercurial preparation in waxy liver. Where there is a tendency to intestinal catarrh, especially in seasons when diarrhœa is prevalent, and also in patients who are decidedly anæmic, Wetzlar prefers the use of mercurial inunctions. Where mercury has already been administered to a sufficient extent, iodide of potash must be employed, which is only active against syphilis (says the author) when it follows a previous mercurial course (!). The diet must be nourishing and easily digestible; and, as all patients bear mercurial treatment better if they are not deprived of fresh air, free exercise out of doors is to be recommended. The author especially recommends the use of the sulphur-waters of Aix, together with mercury and iodide of potash: in the morning, while still in bed, the patient should drink several glasses of the thermal water, fasting; then take a bath; and thrice daily at meal-times should take $\frac{1}{10}$th grain of the bichloride, or else have an inunction of half a drachm of mercurial ointment every night. If iodide of potash be given at the same time with this, the patient should take several doses of the iodide during the day, and have the mercurial friction at night. (*Deutsche Klin. Der Prakt. Arzt,* Mai.)

Treatment of Syphilis.—Dr. J. K. Spender thus sums up the therapeutic conclusions of a series of papers. 1. For the secondary forms of syphilis, iodide of potassium given in the most eligible form, in moderate doses, with blue pill or some analogous preparation. 2. The double compound of iodide of potassium and bichloride of mercury may be necessary for treating syphilitic inflammations of the deeper tissues. 3. The bicholoride of mercury is valuable for removing the intermediary squamous syphilides. The pure iodide of mercury is recommended by Mr. Squire. In doubtful cases, bichloride of mercury may be added to arsenic. 4. The earlier tertiary phenomena of syphilis are relieved by the double compound of iodine and mercury just named; the later ones by large doses of iodide of potassium. Sometimes even cures may be effected. Tonics are generally useful subordinate agents. 5. Infantile syphilis always requires mercury. 6. In otherwise intractable cases the mercurial bath and the hypodermic method of introducing mercury into the system should be rendered available. (See *Lancet*, June 26.)

Cantharides in some Forms of Pyelitis.—Professor Edward Mackey, of Birmingham, records some interesting observations on this subject. In two cases of severe pyelitis he administered two doses of cantharides, in doses of two or three minims (in one case gradually increased up to fifteen minims). The effects of the medicine appeared to be direct and decided, but its use must be strictly limited to conditions of chronic irritation. When acute paroxysms come on, it has to be discontinued, under penalty of doing harm instead of good.

On the Antiphlogistic Action of the Galvanic Current.—Dr. Sycianko, of Charkow in Russia, has been led by his own experience to a firm conviction that the galvanic current possesses, in the highest degree, the power to reduce both chronic and acute inflammations. We have no space here to analyse the cases which he gives; but some account of this method may be interesting. He places on the inflamed part a silver plate connected with the positive (copper) pole of a battery of twenty Meidinger's elements; the other electrode, in the form of a knob covered with paper soaked in solution of salt, was placed on the corresponding part of the neck (this case was one of gingivitis): both electrodes were kept fixed on for two and a half minutes. The direction of the current was thrice changed, with a commutator, during this period. On the removal of the electrodes the inflammatory swelling was found notably softer, and less tender to touch; and the inflammation practically cured by the one galvanic *séance*. In other cases analogous results were obtained by the treatment. (*Berlin. Klin. Wochensch.*)

Changes in the Blood and Tissues produced by the Administration of Silver Salts.—An elaborate series of physiological researches by Dr. Bogolowsky, of Moscow, have conducted that observer to the following important conclusions. As regards the influence of silver salts on the blood, he states:—1. Silver produces a decidedly antiplastic effect on the blood, by means of which it makes that fluid more fluid, darker, and more prone to the production of ecchymosis and effusions, the hæmoglobin dissolved in the plasma gradually changing to a biliary pigment: a longer continuance of the influence produces chlorosis. 2. The blood corpuscles (inasmuch as, under the influence of the silver, they give up their hæmoglobin to the plasma) become transparent and pale, and exhibit various qualitative changes (transparency, inequality of colouring, granulation) and alterations in shape (the long oval form, the appearance of a double contour). 3. The hæmoglobin of the blood corpuscles passes gradually into hæmatine, and the latter into a yellow colouring matter, in consequence of which the gall-bladder is constantly distended with a dark green bile. 4. The quantity of hæmoglobin in the blood is diminished under the influence of silver. 5. Silver does not appear to pass into the blood cells, as had already been observed by Schumowsky.

All these changes are produced with more or less distinctness, according to the activity of the silver salt which is operating on the blood; the pure nitrate has the strongest influence in this respect. Next to it come the double salt of silver and soda, $(Na\ O\ SO_2\ O_2) + Ag\ OS_2\ O_2 + 2\ HO$, and the peptonate of silver.

The changes in the *blood* and its oxidation are well known to be intimately bound up with the structure and formation of *tissues*. Further researches were made upon the influence of silver upon the latter; and the following conclusions were arrived at: 1. The quantity of urine was generally diminished, while its specific weight was increased; the evacuations were notably increased, and coloured dark yellow, or like chocolate. 2. The fluctuations of temperature are not particularly remarkable; nevertheless there was a pretty nearly constant lowering of temperature, by a few tenths of a degree, both in acute and in chronic silver-poisoning. 3. Of the various salts, the double salt above-mentioned has the most intense action on the organism on account of its greater rapidity of absorption. Rabbits which were injected subcutaneously with doses of from 0·156 to 1·56 grain of this salt, died from exhaustion about the fortieth day after the experiment, after receiving, on the average, about forty-seven grains. Given by the stomach, in doses of from 0·156 to 7·8 grains, it caused death by the forty-sixth day; an average of about thirty-four grains having been consumed. 4. Next in activity to the double salt come the peptonate and the albuminate of the nitrate, and then the pure nitrate itself. The other salts of silver, being less soluble, act more feebly on the organism. The peptonate and the albuminate, in doses of 0·78 to 7·8 grains, killed rabbits by the forty-third day; an average of sixty-three grains having been used. Pure nitrate killed these animals in the same time when given by the stomach in 0·78 to 7·8 grain doses, up to a total of ninety-seven grains. In the latter case the influence expended itself chiefly upon the gastric mucous membrane, and but a relatively small part went directly, in the form of peptonate, into the blood, in case the conditions for this formation were present. 5. Silver, *delayed* in the body, produced material changes in the organs: these changes were most conspicuous in the blood, as above remarked, and the following were observed in the mucous membrane or analogous tissues:—(*a*) The mucous membrane of the air tubes and of the intestines was catarrhally affected by the prolonged use of the agent, gastric or subcutaneous. In the epithelial elements of both kidneys and liver the development of these peculiar morbid processes were repeatedly observed. (*b*) The liver-cells and the epithelium of the canals of Bellini were mostly in a condition of cloudy swelling, or else of fatty degeneration. The liver was sometimes found congested and enlarged; sometimes, on the contrary, reduced in size and anæmic. (*c*) In the urine of animals who had long taken silver the presence of albumen was in many cases detected; in such instances the medullary cones of the kidneys were richer in blood than the cortical layer. (*d*) The gall-bladder was in the majority of cases found distended with a large accumulation of bile. Correspondingly with this excessive overflow of bile, the intestinal evacuations, as already remarked, contained a notable admixture of this fluid, in which the presence of silver was detected by appropriate chemical tests. (*e*) Besides the liver and the kidney, the silver extended its influence to the muscular tissues. In various researches changes in the muscular fibres of the heart were observed, which were analogous to the morbid processes in the other organs above-mentioned; the fibres were increased in circumference, and were cloudy, with a large quantity of granular substance, which, on addition of acetic acid, vanished; the transverse striæ were obliterated; and, not rarely, enlargement of the nuclei of the sarcolemma was observed; a thoroughly developed fatty degeneration of the muscular fibres of the heart was, however, not seen, even in a single case. Similar changes were simultaneously found in the other muscles of the body. (*f*) The fatty tissues were in most cases atrophied, and the intermuscular cellular tissue often in a state of "mucous" degeneration. (*g*) A universal blood-stasis (repletion of all the veins of the body with a very fluid blood containing coagula, hypostasis of the lungs, repletion of the vessels of the medullary cones of the kidneys) was the general phenomenon found, on dissection, in all animals killed either by acute or by chronic poisoning with silver. Not infrequently there was transudation into the two pleuræ, and into the pericardial sac, in consequence of this blood-stasis. (*h*) In many of the observed cases the urinary bladder was found distended in consequence of disease of the spinal cord, which was usually developed some days before death in animals which died of chronic silver poisoning. (*i*) The continued administration of silver in progressive doses causes a loss of weight, and visibly destroys the nutrition, so that an impoverishment and a chlorotic transformation of the blood are produced. This last occurrence takes place most rapidly when the silver salt has been administered by means of subcutaneous injection.

The cause of the general venous blood-stasis, which is equally observed in acute and in chronic cases, is believed by Bogolowsky to reside in the affection of the heart and of the apparatus of respiration. In fact, in all the cases of acute silver poisoning observed by him the heart's action was constantly interfered with, and the breathing was irregular and rapid; from which, again, it would naturally result that the lungs would be congested, and that the veins in every part of the body would be overfilled. Correspondingly to these acute symptoms of acute silver poisoning, there are, in the more chronic cases, changes in the muscular walls of the heart (cloudy swelling of the muscular fibres, appearance of granular matter, and multiplication of the nuclei of the sarcolemma), a circumstance which doubtless must act so as to materially alter the functional activity of that organ.

It is less easy to explain the origin of the remarkably pronounced *catarrh* of the stomach and intestines. It is tempting to say that the blood-stasis is the cause of it all; for, in fact, such stasis is the most common cause of catarrh. But where resides the source of the material changes in the liver and kidney elements which have been described especially as cloudy swelling and fatty degeneration? Perhaps the constant irritation of the tissues, from the deposition of silver in them, produces it; as in Stuart's experiments on cauterisation of the muscles of the frog something similar took place. That this kind of thing does not take place in the present case is, however, shown by the fact that, on the one hand, not the slightest traces of such irritation have been found, and, on the other hand, the constant presence of the silver completely excludes the possibility of such an assumption.

It is, therefore, more natural to attribute this process to the previous changes in the blood, and to the interference with oxidation—a phenomenon which is also produced by other metals, analogous to silver in their action. In fact, the blood of animals poisoned with silver is wanting in colour; the blood globules, having gradually given up their hæmoglobin to the plasma, have become pale. In this way the oxidation process must continuously more and more diminish, and that in constant proportion to the operation of the silver; and thereupon the metamorphosis of tissues must be interfered with and delayed, which reasonably corresponds with the fact which Bogolowsky has constantly observed—the lowering of temperature.

Such are the phenomena with which the momenta for the development of passive processes, and a consequent destruction of the tissues, present themselves.

Although, therefore, Bogolowsky by no means overlooks the *direct* action of silver, both on the vegetative function of the tissues in general and on the chemical processes of combination and decomposition, he nevertheless believes it may be assumed that one of the most important causes of the appearance of fatty degeneration in these organs, which are similarly affected in poisoning with arsenic, phosphorus, antimony, manganese, &c., is dependent on the lowered functional activity of the blood corpuscles, which have been robbed of their hæmoglobin.

In almost all dissections of animals dying from long-continued silver poisoning the great distension of the gall-bladder was seen: a phenomenon which possibly may be referred to an extraordinary escape of bile colouring matter from the blood, consequent on the continuous dissolution of hæmoglobin in the plasma, and the other changes of that substance.

As to the origin of the marasmus, to which the rabbits experimented on always fell victims, Bogolowsky explains it by the operation of the poison on the blood; but, on the other hand, it may not impossibly depend on the obstacle to absorption of nutritive matters caused by the gastric and intestinal catarrh, which reaches such a high development. It is also possible that each of the two causes here mentioned is partly responsible for the result. (*Virchow's Archiv*, vi. 4, 1869.)

[I make no apology for the unusual length of the above extract, as the importance of the subject seems to justify it. No doubt these researches are of very high value indeed. And yet—just as in the case of the mercury experiments of the Edinburgh Committee—we are met immediately by the objection, very difficult to answer, that these experiments were made on healthy animals, whereas we want to know the action of silver salt in *disease;* and secondly, that it is quite possible the use of much smaller doses would have produced quite different effects. However, it is much to know what really is the nature of the more early forms of silver *poisoning*. The truly therapeutic conclusions must come later.—Ed. *Practitioner*.]

Notes and Queries.[1]

Arsenic in Herpetic Ophthalmia.—Mr. W. Spencer Watson writes to us as follows:—"Mr. R. S. Oglesby's remarks on the herpetic form of strumous ophthalmia are very valuable—chiefly, I think, from the great promise of the remedy which he proposes and which he has found so useful in practice. I would venture, however, with great diffidence to question whether the name he has given is appropriate to the disease of which he gives so graphic an account. Such symptoms as Mr. Oglesby describes are extremely common in strumous children, but the eruption on the face has always appeared to me more allied to eczema than to herpes. Herpes on the face is according to my experience very uncommon, and particularly so in young children. I beg to congratulate Mr. Oglesby on the discovery of a remedy for a disease which is under ordinary circumstances very troublesome, and in many cases almost impossible to reach by the remedies in use."

Arsenic a Cause of Shingles.—Dr. R. Sisson writes to us thus:—"From the number of cases of shingles which I have seen occur during the exhibition of arsenic I have come to the conclusion that they stand to each other in the relation of cause and effect, and are not mere coincidences. I myself suffered from shingles after taking five minims of the solution of chloride of arsenic thrice a day for a fortnight. By leaving off the drug, and taking a saline aperient, the disease at once disappeared."

Susceptibility of the Skin of Neuralgic Patients to Blisters.—Dr. T. King Chambers has addressed an interesting query to us, which we are at present unable to answer satisfactorily, and we invite our readers to assist us with the results of any careful observations which they may have made on the subject. The question is, Does neuralgia generally diminish the susceptibility of the skin of the painful parts to the vesicating action of cantharides? Dr. Chambers has observed a certain class of neuralgic cases—those, namely, which are associated with mental depression and hypochondriasis—in which this deficient power of reaction in the skin does appear to exist, and he inquires whether the fact is true of other forms of neuralgia. So far, the evidence which we have been able to obtain on this point is conflicting, but we invite further communications from those of our readers who have had large experience of the treatment of neuralgic affections.

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[1] The Editor, being desirous of making this department a useful medium of communication between practitioners, will be glad to receive short notes on theoretical or practical points in therapeutics,—brief jottings on those numerous queries which suggest themselves from time to time to a medical man as he "goes his rounds," but which he has neither the time nor, in some cases, the opportunity of answering. The Editor does not pledge himself to reply to every question addressed to him, but he hopes to make the "department" the means of supplying the information required; and this he can only effect by the hearty assistance of his readers.

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[1] Any of the foreign works may be procured by application to Messrs. Dulau, of Soho Square, W.C.; or Williams & Norgate, of Henrietta Street, Covent Garden, W.C.

THE PRACTITIONER.

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Original Communications.

ON THE THERAPEIOLOGY OF EKZEMA.

BY ERASMUS WILSON, F.R.S.

THE term "ekzema" dates back to a period of one or two centuries before the Christian era, and is met with in the works of Dioscorides Phakas. The orthography of the term which I have here adopted is that of the Fathers of Medicine, the ancient Greeks; and as our present age may be regarded as one of revival of dermatology, as far as Great Britain is concerned, I venture to suggest that the ancient method of spelling the word should be preserved, as being not without advantages which to the student of dermatology may seem to be important. The signification of the word "ekzema" is simply *eruption*, as though it would impress the idea of a well-recognised and universally distributed disorder of the skin, such, in fact, as ekzema exists amongst us at the present day. This term is more general in its comprehensiveness than the more ancient word *psora* of the Hippokratic period; or than the *scabies* of the Latins, although both these terms are usually regarded as being in their original signification synonymous with ekzema.

Therapeutically considered, ekzema is an inflammation of the skin, attended with disorganization of its structure; that is to say, with exfoliation of the cuticle and exudation. Or, in dermatological language, it is a hyperæmia, with the superaddition of a multiple pathological lesion; namely, with epidermal exfoliation, with fluid exudation, with incrustation, the latter resulting from the desiccation of the exuded fluids, and with tissue infiltration. Therefore our treatment of ekzema is simply a treatment of inflammation; but with an appreciative discrimination of the stage and of the degree of the inflammation. Thus our first effort in the way of treatment should be to procure rest and tranquillity to the inflamed part, to maintain the normal status of the disordered tissues, and to exclude every foreign source of irritation.

Let me illustrate my proposition with one of the simplest of examples; namely, a cut finger. What should we do in the instance of a cut finger? Why, we should apply a bandage, which we should adjust carefully, and leave nature to accomplish the rest. We need no pharmaceutic help; nature herself has provided an adhesive bond for the cut edges of the wound in the recently effused blood, while we secure the scientific objects of maintaining rest, position, tranquillity, and the ordinary conditions of normal function. And this is the principle of treatment of an ekzema. We apply our bandage to exclude the atmosphere; to prevent variations of temperature; to support the enfeebled tissues; and with the necessary consequence of a gradual return of normal function and a restoration of the tissues to a state of health.

But it may be very truly said that, although this simple expedient will suffice for a cut finger, it might be inapplicable to a face wound or to a variety of wounds in other situations. This is very true indeed, and the answer is obvious: the medical practitioner must always go about with his head upon his atlas and with a reasoning mind constantly at work within the confines of his cranium; it is just this that proves the necessity of medical education and distinguishes the learned from the unlearned, the expert from the pretender. We must be able to adapt ourselves to the particular circumstances of the case; we may have to vary our means to suit a multitude of altered conditions; but the principle is unchangeable—adjustment of surfaces; rest and support of tissues; protection from every source of irritation. It may be sufficiently easy to keep together the incised surfaces of a cut finger; but to keep together the cut surfaces of a cleft palate requires genius, judgment, and skill. Then it is that we hear the word "difficulty" pronounced; difficulty of what? It is a mere question of keeping together two cut surfaces. Why, difficulty in the adaptation of our means. And it is in the little impediments to the proper adaptation of our means that alone lie the difficulties of treatment of that very obstinate and troublesome affection ekzema.

Let us take one of the commonest examples of ekzema, namely, ekzema of the leg; how should we proceed with its treatment? It is red, hot, exuding a discharge and raw in some parts, encrusted with scabs and sordes in other parts; covered with desquamating cuticle around the circumference, and exhibiting small itchy pimples beyond the desquamating border. Moreover, in addition to all these surface lesions, the derma is thickened from infiltration, and the limb more or less swollen from the extension of infiltration into the subcutaneous areolar tissue.

Now, if there were no lesion of the derma beyond the hyperæmia with infiltration and œdema, the practitioner would not hesitate for an instant: the treatment of the cut finger, a nicely adjusted bandage, is clearly the remedy. But the presence of other lesions—for example, the raw exuding surface, the copious discharge, the crusts, the dry desquamating cuticle, and the papulæ distributed upon the adjacent skin—constitute an apparent complication, and this complication demands a modification of our bandage treatment. Let us inquire into the special conditions constituting the complication, and then let us consider in what the modification of treatment should consist. The complication is represented by, firstly, an excoriated secreting surface; secondly, a dry, parched, exfoliating cuticle; and, thirdly, an erythematous and papular exanthem. Each of these conditions requires its own particular remedy, and these must be provided before the bandage is applied. For the first indication,—namely, to sheathe the excoriated surface, and also to moisten the dry crusts,—we can have no better remedy than the linimentum calcis, which should be applied by means of a soft brush. For the second indication, we shall require the benzoated oxide of zinc ointment, which should be thoroughly distributed by means of the point of the finger over the whole of the desiccated surface. And for the third indication, we may employ a powder composed of starch, oxide of zinc, and camphor, to be dredged upon the erythematous and papulous part of the skin. This being done, we take strips of linen about two and a half inches in breadth and of sufficient length to encircle the limb, as in the instance of the tailed bandage, and having spread these strips with the benzoated oxide of zinc ointment, containing from five to ten grains of glacial carbolic acid to the ounce, we apply them smoothly to the limb, beginning at the lowest point of the eruption and proceeding upwards until the whole of the morbid surface is included. All this being effected in the most approved surgical fashion and with the "lady's hand," the bandage may be carefully applied.

I need hardly enter into an explanation here of the reason of the common remedy for burns, the linimentum calcis, being that which is the best suited for the excoriations; neither need I relate a tale that I have so often told already, that a thin stratum of oxide of zinc ointment is, at one and the same time, a poultice, a water-dressing, and a sheathing plaster, without the disadvantages of those applications. Nor need I explain that the erythematous and papulous skin presents those conditions of irritability which would very possibly be provoked into positive outbreak by the use of any ointment or moist or greasy application whatever, whereas a thin layer of absorbent powder rendered sedative by the addition of camphor will soothe the sensitive skin and prevent pruritus. Carbolic acid I have found a useful addition to the oxide of zinc ointment; it is perfectly unirritant in the proportion mentioned, and it would seem to conduce to the more rapid healing of the skin by its mildly stimulant and antiseptic operation.

An ekzematous limb nicely packed up and bandaged in the manner described may be left undisturbed for one or even for two days. Exudations very rapidly dry up, excoriations heal, crusts loosen and come away with the straps, or are easily displaced, desquamation gradually ceases, and the skin is restored to its healthy smoothness, sensibility, and integrity. Discharges, if any be present, may be wiped away with a soft cloth; by the same means loosened crusts and scales may be removed, and then the dressing should be resumed in the same manner as at first, or if the excoriations be healed then the linimentum calcis may be omitted. Water should be carefully avoided in effecting the cleansing process, and unless a water-dressing be thought desirable for a short period and for a special purpose, such as the removal of heat and pruritus, should never be used.

It may be stated authoritatively that whenever a bandage can be applied, it constitutes a necessary part of the treatment of ekzema; but in ekzema, as in every other disease of the human frame, there exist a multitude of variations of symptoms that demand from us an equal variation or modification of our manner of procedure. There are parts of the human frame upon which the application of a bandage would be impossible; I may instance the pudendum and perineum, the axillæ, the neck, the apertures of the body generally, and deep folds of the skin such as that behind the ears; and these are all parts in which ekzema is common. Now, in every case of this kind the art of the surgeon will be shown in obtaining the results of the bandage as far as may be practicable, without the bandage itself. He may be unable to procure the support of tissues which would be derived from a well-adjusted bandage, but he may succeed perfectly in excluding the contact of irritants, and particularly the atmosphere, and he may preserve the inflamed skin in a state of comparative tranquillity and repose. And this is to be effected by two of the pharmaceutical agents already mentioned, namely, by that admirable remedy for all affections of the skin, the benzoated oxide of zinc ointment, and by the powder of zinc and starch. My instructions to my patients are generally summed up in these words: Avoid washing the eruption, wipe it with a soft cloth if it need cleansing, but on no account use water; and keep the surface constantly covered with a thin coating of the zinc ointment, contriving, as completely as you are able, to prevent the removal of the ointment; lastly, whensoever the ointment is accidentally rubbed off, repeat it again; the best instrument for spreading it on the affected skin being the point of the finger.

Let me illustrate my method by another example, in which the application of a bandage is out of the question, and wherein the zinc ointment and the diluted zinc powder furnish brilliant results,—namely, in ekzema infantile. In these sometimes terrible-looking cases, the two grand remedies are: 1. Avoidance of water; and, 2. A copious use of the benzoated zinc ointment, with the addition, under certain circumstances, of the linimentum calcis and the diluted zinc powder. It is sometimes curious to see the wonder of mothers when they are told to abstain from all washing of their children until the skin is sound. And yet a moment before, they have been feelingly narrating the increase of irritation and suffering that constantly follow the bath. No, is our answer; keep the skin as free from dirt as you please by means of a soft cloth, but always replace the ointment wherever it has been rubbed away, and by all means avoid water in every shape, and disturb the inflamed skin as little as possible. Perhaps we may be asked: What is to be done in case of an exacerbation of itching? We should then say: Rub the surface gently with the zinc ointment; or sponge the itching part with a sponge squeezed out of hot water; or press the hot sponge upon the itching part; but when the sponging is over, and the skin is dried, replace the ointment as before. Often, we are told that the itching is intense at night, and the skin hot and inflamed; in this case, we direct that a piece of rag saturated with spirit lotion should be placed on the heated part, and exchanged for a similar piece as often as it may become dry.

The instance of ekzema infantile brings before us another illustration of modification of treatment which is the very essence of medical science, or rather of medical tact and genius. The zinc ointment which is so admirable over the whole body and face of an infant as to deserve to be called the sole reliable remedy, is mischievous in the extreme when used upon the scalp. Its tenacious and desiccant qualities, and its tendency to concrete, so excellent in their adaptation to a smooth surface, become inconvenient and troublesome on the head, by matting the hair, detaining secretions, and forming a dense and unmanageable cap. Hence, while for the general surface of the skin we should recommend the zinc ointment, for the scalp we should prescribe one of a more diffluent character, such as the nitric oxide of mercury, considerably diluted, say one part to eight of benzoated lard; or the ammonio-chloride similarly diluted.

The treatment which I am now describing is that which is applicable to the acute and sub-acute stages of an ekzema; but beyond these and at a more advanced period we have stages of chronicity of every degree. To return for an instant to the language of the Greek Fathers, we have the moist psora and the dry psora; in other words, the psora and the psoriasis; and the latter so altered in characters by prolonged continuance as to have been regarded as a separate affection. Who, for example, hesitates to term a dry squamous ekzema of the palm of the hands and of chronic character a psoriasis palmaris, and yet no one doubts of its being what it really is, namely, a chronic ekzema. The essential pathological characters of a chronic ekzema are, thickening and hardening of the skin with desquamation, sometimes rhagades, sometimes ichorous exudation, and pruritus, more or less frequent and severe. If we inquire a little further, we may come to the conclusion that the essence of a chronic ekzema is tissue infiltration or cell infiltration; with a consequent degree of hypertrophy, and a greater or less degree of embarrassment of circulation and innervation. And if we carry our thoughts onwards to the inquiry, how this pathological state is to be remedied; the answer will be, by the aid of stimulants.

Thus it is, that while pressure by bandage, wherever practicable, and exclusion of external irritation, are equally beneficial in chronic ekzema with acute ekzema, we must seek further for our remedial armament among those external applications which are recognised as external tonics or stimulants. It is at this stage and in this form of the affection that we obtain good results from mercurial ointments, such as those of the red and white precipitate, from sulphur ointment, and especially that of the iodide of sulphur; from nitrate of silver in solution; from ointments of tar, and notably that derived from the wood of the *Juniperus oxycedrus*, and also from kreasote and carbolic acid. The stimulation excited by the judicious application of these remedies causes the dispersion of the hyperæmia and thickening of the skin and removes the infiltration, together with the pruritus and the hypertrophous generation of epidermis. It must be observed that these remedies require judgment in their use; all are excellent for a particular purpose, but they must be employed at the right time and with the intention expected of them always present to the mind. They are tonic-stimulants when employed with moderation and judgment; irritants when used indiscreetly and in excess. And of their mode of action we must judge not only by the appearance of the skin, but also by the sensations of the patient.

There are some old surgical saws that have a place probably in the mind of us all, and a bearing on the question of the treatment of chronic ekzema and of the remedies proper to be used for the purpose; such are: "the setting up of a new action" to replace the old and morbid process; "the conversion of a chronic into an acute affection," or of a less manageable into a more tractable affection. And these ideas have suggested the application of a blister to a chronic circumscribed ekzema or psoriasis, and its subsequent treatment like an acute affection. Empirical treatment has also shown us that we may, by painting a chronic ekzema with a caustic alkaline solution, such as that of equal weights of potassa fusa and water, cause a copious exudation of ichorous fluid; and that, following this application up by a palliative treatment, we may remove the thickening, heal the rhagades, and arrest epidermic exfoliation. It may be that the caustic solution will require repetition a second or a third time. But the principle of operation of the treatment would seem to be, to disgorge the skin of its infiltrated fluid, perhaps by inducing contraction of the bloated and hypertrophous cells, or perhaps by chemical exosmosis.

In the treatment of chronic ekzema, and after the cure of an acute ekzema, we also derive good results from saponaceous ablutions, particularly when aided by the juniper tar soap; from cold affusion, and also from the use of the cold douche; regarding these remedies as tonic-stimulants of the skin, and calculated to restore the exhausted nerve function and weakened tissue function of the affected integument.

In the treatment of disease, whatever its nature, we naturally give our first attention to the local suffering; this is a matter of necessity in surgical affections, and is not less so in diseases of the skin, to whatever extent they may owe their origin to constitutional disturbance or constitutional causes. Hence, while the local affection is important, the constitutional state of the patient is equally important; and I must not be supposed to think lightly of or to undervalue it, because I dispose of the local disorder before I inquire into the state of health of the patient. Ekzema is undoubtedly *local* in those instances in which it proceeds from disturbed innervation or circulation of the part, as, for example, from varicose veins; or follows wound or injury of a limb, or the presence of debilitating or irritant causes, and in these instances may require nothing more than local attention; but in the majority of instances it is the manifestation of a nerve irritability which has its origin in constitutional debility. In one series of cases, *nutritive debility*, either from deficiency of food or improper food, is evidently the predisposing cause, as in the instance of infants which have been deprived of their natural food, and in whom the endeavour is made to nourish them on substituted food. Allied with cases such as these are the examples of nervous and elderly persons in whom nutritive waste is more active than nutritive supply. While in a third series of cases, and these perhaps are the most numerous, the cause is referrible to mal-assimilation; and the digestive and assimilative organs are primarily at fault. I say nothing of diathesis, or, as Bazin would term it, of "herpetism;" because it is evident that diathesis must have its proximate predisposing cause, which is in no wise different from that which influences organizations of an opposite kind.

Thus in the case of ekzema infantile our remedies must be, in the first instance, *food* of a nutrient quality, and which harmonizes with the organism of the infant; nutritrive substitutes, such as cod-liver oil in an emulsion with yolk of egg; and assimilative tonics, such as liquor arsenicalis in one or two minim doses in association with vinum ferri and dill water. In that form of nutritive debility which is dependent on nerve irritability and waste, the principle of treatment must be the same—namely, appropriate and nutritive food; three minim doses of liquor arsenicalis in conjunction with vinum ferri; and due attention to the functions of the digestive organs. I have so often published my favourite formula, which I believe to be without peer, that it needs some apology for repeating it again; but I do so, because it will occupy little space and lest it may have been overlooked by those to whom I trust it will prove as useful as it has been to myself. My ferro-arsenical mixture is as follows:—Vini ferri, ℥jss; syrupi simplicis, ʒiijss ad ʒij; liquoris arsenicalis, ʒss ad ʒij; aquæ puræ, vel anethi, ℥ij. The dose, one drachm, towards the end of the meals, three times a day.

Assimilative debility as a cause of ekzema presents a somewhat extended field for practical examination; for example, deranged digestion, deranged secretion, deranged assimilation, and the consequences of all these aberrations. Perhaps we may find that our patient has been running through the manifold variations of bronchitis, neuralgia, rheumatism, or even gout; and if our colleague Bazin were present, he would probably recognise an "arthritism." Practically the matter is of the simplest kind; regulate the function of the alimentary canal, secure the proper action of the liver, correct the lithic propensity, give tone to the stomach and vigour to the digestive and assimilative functions, and the cure, *quoad* the constitutional power, may be considered as complete. Should a lingering eruption point to a continuance of peripheral nerve-debility, the ferro-arsenical mixture may be administered for any length of time that may be requisite. It is a rule, however, that is worthy of attention, that arsenic should always be held in hand as a reserve force, and employed only when all the animal functions have been regulated by their appropriate remedies, and when cutaneous nerve-force is all that remains to be consolidated.

ON SEATANGLE TENT.

BY J. BRAXTON HICKS, M.D. F.R.S. F.R.C.P.

Physician-Accoucheur, and Lecturer on Midwifery at Guy's Hospital, &c.

Of all the materials used for dilating the cervix uteri there are none so cleanly, efficient, and convenient as those made from the *Laminaria digitata.* Although now largely employed by many, they are not so well known as they deserve to be ; and therefore allusion to the subject may not be altogether useless, nor some practical hints unacceptable to some readers.

This material can be made into tents of various forms and sizes, but as the dried stem of the alga usually employed does not exceed half an inch diameter,[1] tents required of a larger size must be made by fastening together a sufficient number. They may be grouped in three, five, seven, &c. But perhaps it will be found most convenient for the very large size to combine groups of three in one large bundle; they may be tied together by twine at the base, but at their apex it will be best to employ a small elastic band. These can be obtained ready made up.

Some are made in two halves pegged together. Some are made tubular to permit of the introduction of a stillet, which, passing two inches beyond the end of a catheter, forms an easy contrivance for reaching the os without the speculum, and also to permit the secretions to flow through it. The smallest sort, from $\frac{1}{12}$ to $\frac{1}{8}$ inch in diameter, are used for dilating the rigid or contracted os and cervix, either alone, or preparatory to the use of the hysterotome. The tubular form cannot be made below a certain size, as it is found impossible to drill a hole through them if too attenuated.

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[1] As other larger varieties of algæ will hereafter probably be found equally useful with the *Laminaria digitata*, it is desirable that investigations be made in this direction.

I have found that they distend to about three times their original diameter, and that in an ordinary state of the secretions they reach their full distention in about fifteen hours; of course some variation will be found in this respect, especially between the different sizes, for the larger they are, the longer the time occupied for them to become wet in their interior, and therefore, generally speaking, the large bundles produce their effect quicker than if made of one piece of an equal diameter to the combined. These two points are important to bear in mind, because where we have to dilate the cervix to a considerable size, and we require to follow in succession, it is best to introduce the next sized tent as soon as the previous one has attained its full dilatation. To leave it in beyond that time not only delays the operation uselessly, but adds much to the chances of uterine irritation. We must therefore have at hand a series of three for general purposes. For instance, when we wish to dilate the cervix in order to pass the finger in easily into the cavity, supposing we begin with one of $\frac{1}{8}$ inch diameter; the next size should be nearly $\frac{3}{8}$ inch, and the last (if another be required) should be nearly 1 inch diameter: as this would expand to nearly three inches at its fullest, it would not be requisite to allow it to remain in—unless in a case of pregnancy or imperfect miscarriage, where we want the fullest expansion—so long as to its complete expansion, say for ten hours. Where slight dilatation only is required then one is sufficient, and it should be removed in twenty or twenty-four hours at the longest. For dilating further, we may group the smaller bundles in any numbers we like, but it will seldom be required to go beyond an inch diameter for the last one. If we wish the tents to be more rapid, then it is best to soak them in cold water a short time before introduction.

The purposes to which they can be applied for obstetric purposes are numerous. They can be employed to dilate the smallest os and cervix uteri, either alone or in preparation for the hysterotome; they can for this purpose be made as small as required. In the case of a traumatic closure of the os uteri, I have employed it with complete relief. In closures of the vagina from injury.

also where the opening is reduced to a pin-hole, they may be employed to dilate up the stricture, preparatory to some more radical operation, or in some cases they may be employed entirely. The effect of the latter plan, however well it may succeed at the first, is liable to pass off, and the contraction to resume its sway. I have found that the bistoury lightly drawn over the contraction, in numerous places, attended by much more satisfactory results ultimately. After operation for opening either vagina or os uteri, these tents may be employed from time to time to prevent the closure recurring. They may be employed to dilate the cervix to a size sufficient to permit us to explore the interior of cervix or the body of the uterus, in cases where polypus is suspected, or where the remnants of an imperfect abortion is supposed to exist. For the same purpose they are of great value to permit us to diagnosticate between polypus and fibroid tumour of the uterus, where the hæmorrhage is so great as to require interference.

In cases of flexion of uterus they will assist to straighten out the canal of the cervix, and for a time relieve the patient of the dysmenorrhœa which frequently accompanies it.

Again, in cases of dysmenorrhœa and sterility in married women from contraction of cervix, they can be with great advantage used, because it is clear if the sterility be owing to the occlusion of the cervix, then its expansion should be attended by immediate relief; otherwise we may conclude that other causes exist which give rise to these states, and if after this dilatation the patient conceive, then a permanent cure results. In the single woman, however, the effects are less permanent, and in cases of severe obstruction will be frequently the only means of giving anything like permanent relief.

In some cases, as in malignant disease of cervix where the resistance is considerable, I have employed this substance to dilate, in order to deliver prematurely. These cases however are rare where much resistance exists, and in general it will be better to employ a softer material, as sponge tent, or elastic dilating bag, because they are less likely to scratch and abrade by their extremities than the more rigid seatangle tents.

They can be introduced into the cervix uteri in various ways.

First, they may be introduced by a long pair of forceps. The patient being placed on her left side, the fore-finger of the left hand, or still better two fingers if possible, are to be passed to the os uteri. The tent, held by the forceps, is carried along the finger to the os, into which it is introduced. The handle of the forceps should be then brought well against the perinæum, so as to throw the tent into the axis of the uterus (in cases of normal position) and very gently pressed forward ; after it has passed in nearly its whole length, the forceps should be detached, and the fore-finger presses gently against the end of the tent to keep it *in situ*. In order to retain it there, it is well to pass a plug of sponge with a tape tied round it so as nearly to fill the vagina. It is well to see the urethra is not pressed on, or retention of urine might ensue, causing trouble and alarm. In multiparæ there is no trouble in employing this plan, but in some, particularly in virgins, there is much difficulty in introducing the tent in consequence of the rigidity and drawing up of the perinæum. Besides, unless the serrations of the forceps are carefully rounded off at the edges, the vulva and vagina may be scratched, not only causing pain, but adding to the difficulty of introduction in consequence of the movements of the patient.

Another, and in my experience a better plan, in cases where the extremely small tents are not required, is to employ an elastic catheter with a stillet. A portion of the end of the catheter not quite so long as the tent should be cut off. This will leave the stillet protruding. On this the tubular tent should be passed, care being taken to see the stillet does not extend beyond the end of the tent. The string which is attached to the lower end of the tent being carried down by the side of the catheter, is held by the same hand. The arrangement is then introduced as an ordinary uterine sound : and when the tent is properly within the cervix, the stillet is withdrawn, thereby leaving the tent in the cervix. The finger which is in the vagina should be placed on the lower end of the tent to prevent it sliding out and the sponge introduced as usual. A very convenient little instrument based on this principle has been made by Messrs. Weiss.

There is another mode which will be convenient in some cases, namely, to pass a speculum. Having introduced the tent into the cervix as far as possible by a forceps, the speculum can be withdrawn carefully. A finger is then passed up to the tent, and gentle pressure being made the tent slides in. This plan is good in cases where retro- or ante-flexion exists, but then of course it will be necessary when pressing the tent in with the finger to vary its direction, either forward or backward according to the axis of the body of uterus. In these cases the tent is ultimately placed in the transverse diameter of the vagina. In cases where the inner cervix will not permit the tent to pass, I have managed to do so slowly, by lodging the lower end against the fold in the posterior wall of the vagina, and then plugging that canal as usual. The little irritation produced by this has caused the levator ani to act, so that a gentle pressure is exerted for some time against the inner os, which has ultimately yielded. For the larger groups of tents, it will be found that the forceps will introduce them most readily; for in most of the cases where we wish to use large tents the vagina is so well relaxed, difficulty is rare.

It is very important in order to effective dilatation that the tent should pass the inner os, in all cases where the cavity of the uterus is to be explored. Tents of all kinds may fail in this particular, for two reasons: one because they may not have been introduced so far; and another, because they slip out. This is particularly the case with the seatangle tents, but as they can be made smaller than any other kinds there is no reason why, if one will not pass, a smaller should not be tried. But it must be also remembered that the cause of inability to pass a tent may be from a flexion of the organ; this point of course should be first made out before we commence to pass the tent.

One means of preventing these tents from slipping out, at least after they begin to swell, is a plan adopted by some makers of tying the string round the lower end, so that it cannot expand so much as the upper: and this reminds me of a fault in many, namely, the shortness of the string attached to the lower end, and the imperfect security of the knot: so that it is difficult on the former account to withdraw it, and on the latter the cause of much trouble and sometimes pain when we wish to remove it.

Before the introduction of these, as of course with all tents, it is important that the bowels be well open the day previous, and the bladder evacuated immediately before. Otherwise the disturbance caused by the action of the bowels is sufficient to cause expansion of the tent; with regard to the urine, its passage will of necessity be requisite twice at least during the twenty-four hours the tent is dilating; but as it is advisable that the patient should not rise up, she should be directed to pass urine without rising: or still better, if the catheter can be employed, that it should be used.

Upon your visit at the end of twenty or twenty-four hours the sponge plug is to be removed first, and then the tent, and the vagina syringed with warm water, to which a little of Condy's solution should be added. By this means any absorption of the unpleasant discharge (which is almost always present) through any abrasion is prevented. This is especially useful where a series of tents have to be introduced. It is not a bad plan to soak the sponge plugs in a lotion of permanganate of potass before introduction. Some sponge tents are made enclosing antiseptics, so that when they expand by the melting of the wax this material is set free. The same plan might be adopted in the tubular seaweed tents, but the quantity set free would not be so much. But the tent itself, independent of the plug, does not produce much unpleasant odour, while the sponge tents do so.

After the process of dilating the cervix by the tent, I consider it important, indeed I may say imperative, that the patient should keep quiet. In hospital practice I always enjoin a week's rest, and this plan I adopt in private, unless a couch can be substituted after a few days for the bed. The vagina is washed gently out with warm water twice a day, to prevent accumulation of the discharges, and irritation resulting from them.

Too much care cannot be taken after the employment of the tent, especially if done rapidly and to a considerable extent. The irritation in and around the uterus does not subside for some days: I should say a week or more, and if excitement of any sort arises, especially by exercise, this is apt to increase and become a matter of serious import. I have seen a case end fatally, where there had been dilatation a week previous;

mental shock suddenly lighting up the inflammation and extending it to the peritoneum. I would therefore treat dilatation of the uterus as an operation of much more importance than it is by some practitioners; who, having introduced the tent at their own house, have sent the patients home, with directions to remove it in so many hours. In one such case the string broke away and the patient could not remove the tent. Severe cellulitis and metritis followed, which laid her up for many months.

But with the care above enjoined, this unpleasant result is obviated to a great extent. Probably in the slight dilatation produced by the use of the tent for a few hours, the risk in this respect is perhaps considerably less, and perhaps it is less when softer materials are used than the seatangle tent; but where free expansion of the cervix has been produced, the risk of subsequent trouble is readily seen if care be not taken, and this risk is much increased proportionately to the time occupied in tenting. I would say that the patient should never, if at all avoidable, be under the continuous action of these tents for more than two and a half days, at outside three. For this reason the tents should follow one another as quickly as consistent with efficiency.

During the presence of the tent in the cervix, it is not unfrequently found that the uterus becomes irritable, and expulsive pains occur. To prevent this, as well as the consequent extrusion of the tent, it is well to give an opiate, especially should the pains appear. This will also lull the bladder and rectum, and thereby prevent their influence extending to the uterus.

In conclusion, I may point out the special advantages of tents made of seaweed.

1st. They can be made of any size, particularly much smaller than sponge tents.

2d. They have more distending power. The rigidity of the inner os uteri is sometimes so great that even these tents are distinctly marked by it; but the sponge tents not at all unfrequently are unequal to produce any marked impression on the constriction.

3d. They do not retain the secretions so as to produce so much offensiveness, consequently there is less risk of irritation locally or generally.

4th. By their greater rigidity they can be more readily applied, especially in a tortuous canal.

They have, however, some disadvantages :—

Their rigidity makes them not so suitable in cases where the uterus is readily bleeding, or very tender; nor in cases where the os is somewhat dilated by a polypus or growth distending it. Here a sponge tent is best unless the os and cervix are very rigid.

Their great distensive force makes them less acceptable where the uterus is very irritable.

They should be in all cases so made that no sharp edge be noticeable. In the tubular tents this is a point liable to be overlooked.

And for the dilatation of the os uteri in a natural state for purposes of induction of premature labour these tents are not by any means so suitable as the sponge tents, or as the India-rubber bags.

With these exceptions, in cleanliness, certainty of action, ease of introduction, and minuteness, they are certainly not equalled by any other material at present in use.

PHTHISIS AND PHYSIC.

BY R. P. COTTON, M.D.

Fellow of the Royal College of Physicians, London; Senior Physician to the Hospital for Consumption, &c., Brompton.

If respect be had to the numbers of "cures for consumption," phthisis must be, of all diseases, the most curable. Unhappily, however, it has often turned out that the charlatan and not the patient has benefited by such "cures." In the days of our grandfathers *metallic tractors* were in vogue, and none who patronised them need have died either of consumption or any other disease. In the next generation *mud baths* were the great "cure;" and consumptive sufferers went to certain German localities to sit in mud, and afterwards to die of consumption. *Sleeping in cow-houses* then came into fashion, and soon afterwards the even less luxurious practice of *snail eating;* and I remember in my youth a gentleman—half hero and half dupe—who was said to have been cured by having lived upon this dainty gasteropod. Even in our own times we seem to have grown but little wiser, since the *grape cure* has had a successful run; and the *hypophosphites of lime and soda* are at the present moment advertised as a "*specific* for the prevention and cure of consumption;" whilst even *snake excrement* is being both prescribed and swallowed with hopeful expectations.

I wish very much that in the present communication I could introduce to the profession some veritable *specific* for phthisis. I must confess, however, that I have none such to offer, and I believe, from the very nature of the disease, that none will ever be found; although I am convinced that the Materia Medica affords many very useful auxiliaries for its treatment.

I believe that I have tried everything, and nearly everything

I have tried has seemed to do more or less good, at least for a time, in certain cases. · Hence it is, perhaps, that in a less extensive field of observation so many different remedies have been extolled, even by the most honest observers. But the explanation is an easy one. Phthisis is strictly a disease of the system, and is consequently attended by a great variety of symptoms, according to the individual peculiarities of patients. Phthisis, too, is not always the same; there are, doubtless, many varieties as well as degrees of the disease. It is, therefore, not surprising that we should have no *one* remedy for it, and that a number of very different medicinal agents should have been found more or less available in its treatment.

Although in the so-called "specifics" for consumption I have, as already stated, no faith whatever, yet I have thought it a duty to give some of them a fair trial.[1]

I have tried *phosphorus* and its many combinations very extensively. Of the *pure phosphorus* I gave from $\frac{1}{24}$ to $\frac{1}{18}$ of a grain dissolved in oil of sweet almonds two or three times a day, but with no marked effect except in some few instances, where it seemed to have the same general result as many other tonics and stimulants. Of *phosphoric acid*, both alone and in combination with iron, I have had abundant experience, and have found them—especially the simple acid—very useful in some cases of cachectic phthisis attended with loss of appetite. Of the much vaunted *hypophosphites of soda and lime* I have made and published numerous observations,[2] and I believe them to be simple alkaline substances, adapted, like many others of the same class, to certain cases of phthisical dyspepsia, but having no claim to be considered, as advertised, "*specifics*" for consumption.

Of *iodine* and its combinations I have made many experiments. From the pure iodine, given in doses of 5♏ of the tincture two or three times a day, I have never observed any decided effect in either direction. From the *iodides of potassium* and *of iron*, however, but chiefly the latter, I have seen many very satisfactory results, and I believe the iodide of iron to be a valuable agent in the treatment of phthisis in children, as well as of those cases occurring at all ages in which there is much pneumonic consolidation, whether such be a cause or a consequence of the tubercular condition.

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[1] Having been pressed by patients to try the *snake excrement*, and taunted with the accusation of being prejudiced against it, I gave it a careful trial, and published the result in the *British Medical Journal* for May 17, 1862. In the same number of that Journal are some excellent and amusing observations by Dr. T. K. Chambers, who had also been induced, for like reasons, to try the same "cure." It is perhaps hardly necessary to add, that both of us found the excrement about as potent a remedy as pump water.

[2] *Medical Times*, February 13, 1858, and November 14, 1868; *Lancet*, April 25, and May 2, 1863.

Arsenic has been much extolled by some of our French *confrères.* I have made many trials of it, but always with a very negative result. That arsenic is a valuable tonic in some depressed conditions of the system, and may be available as such in some cases of phthisis, I can readily believe, but as to its exerting any direct effect upon tuberculosis I have not the least faith.

Iron is a useful tonic in a great number of consumptive cases. From my notes I find that of the patients who have done best under treatment, by far the greater number were amongst those who took iron regularly and persistently. If the French school, however, has lately taken up arsenic as a remedy, it has at the same time given its verdict against iron. Some years back the late M. Trousseau expressed his conviction that iron both predisposed to pulmonary hæmorrhage and induced phthisis, and in this view he has had not a few disciples. It had been remarked by him, as indeed it had occurred to others, that the chlorotic form of anæmia was seldom associated with tuberculosis. He argued, therefore, that to cure this anæmia was to produce consumption. Chlorosis, however, is no more antagonistic to phthisis than are many other diseases. It would seem to be a general rule, to which of course there must be many exceptions, that two diseased or two dissimilar actions seldom go on simultaneously. The same argument, therefore, which M. Trousseau has applied to chlorosis, might with equal reason be urged against curing any other disease whatever. Such questions, indeed, can only be determined by experiment, and that the result of such experiment is quite opposed to M. Trousseau's view I am thoroughly convinced. From my own experience I am decidedly of opinion that hæmoptysis is no necessary consequence of the taking of iron; and that the development of phthisis, so far from being favoured by the use of iron, is certainly controlled by it. Of the preparations of iron I prefer the *perchloride*—the old "tincture of steel"—of which I am in the habit of giving 15 minims with a drachm of syrup of lemon twice a day. In cases of acidity of stomach I often prescribe the *ammonio-citrate* of iron, with potash or soda. The *vinum ferri*, also, is an effective preparation, and is especially useful in infantile phthisis. I always give it immediately after meals, believing that in this way the iron is more readily taken into the system.

Quinine is well adapted to many cases of phthisis, as a general tonic in the earlier stages, and as a tonic and antiperiodic in the later stage after hectic fever has set in. Its various combinations with iron—upon which I need not enter—are also excellent auxiliaries to other treatment, by improving the appetite and lessening the exhaustive discharges to which consumptive patients are so liable.

The *mineral acids* also claim a high place amongst the tonics for consumption. In the absence of stomach irritation, the simple dilute *hydrochloric acid*, or the dilute *nitro-hydrochloric acid*, with a little syrup of orange or ginger, is often very useful in restoring the general tone of the system, increasing the appetite, and diminishing excessive cutaneous secretion.

The *alkaline carbonates* are not less available in many cases, especially where a furred centre, red edges, and prominent papillæ of the tongue indicate gastric irritation arising from acid dyspepsia. Among the worst and most intractable symptoms of phthisis are those depending upon dyspeptic complication; and in the formulæ of the Consumption Hospital is a compound of soda and gentian, with hydrocyanic acid, which, from its frequent usefulness, comes nearer to a "specific" than anything I ever prescribe.

Strychnine I have employed abundantly, but with very trifling success. It sometimes serves the purpose of a tonic, and is occasionally useful in the very distressing cases where sickness and loss of appetite are prominent symptoms, but more often than not I have found it, even on such occasions, less useful than many other agents.

Glycerine having been considered by many medical practitioners scarcely, if at all, inferior to cod-liver oil, I have given it a full trial, and published the results.[1] From these observations it seemed to have very little effect upon phthisis in any of its stages; its supposed fattening qualities were not noticed; and in no particular could it bear comparison with cod-liver oil.

Bromide of potassium I have frequently prescribed both in early and advanced consumption, but I never saw from it any good result. So far as the disease itself or any of its essential symptoms were concerned, it never offered the least encouragement either to myself or to my patients.

Chlorate of potash I have also given in a considerable number of cases, hoping that its generally acknowledged tonic, antiseptic, and upholding qualities might have some influence upon the disease; but I found it of no special value, except perhaps in a few cachectic cases, in which it, as well as other agents of a similar character, sometimes prove useful.

I have prescribed large and regularly-repeated doses of *chloride of sodium* to a number of hospital patients, but without observing any effect either in one way or another.

Cod-liver oil must not be omitted in the therapeutics of consumption, although I regard it quite as much as an article of diet as of medicine. Although far from a *specific* in the disease, it is nevertheless a very useful auxiliary in its treatment, by nourishing the system, and making up for lost tissue, when many other things fail to do so. So much, however, has already been written, and so much is known about cod-liver oil, that it is unnecessary to enter into anything beyond a few practical remarks upon its effects. I believe that the pale and the dark oils are equally useful, and that the choice between them may be safely left to the patient, who, if of delicate stomach, is almost sure to prefer the pale variety. I have known some very remarkable cases of increase of weight under its use, several of my hospital patients having gained nearly two stone during the ten or twelve weeks they have been under treatment. Such great increase of weight, however, is not always indicative of equal improvement in the general health, the most improved cases being, more usually, those in which the increase has been moderate and progressive. I have seen cases which have manifestly improved under the oil, but in which there was not the least increase of weight. I have also seen many in which, notwithstanding a regular increase in weight, the physical signs of the disease went through their several stages unchecked.

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[1] *Medical Times*, June 27, 1857.

Other *animal and vegetable oils* have the same general effect as that of the cod-liver, but in a much less marked degree. I have tried the common train oil, the oil of the spermaceti whale, and neat's-foot oil, besides linseed, olive, almond, and cocoa-nut oils. The greatest effect was noticed in the experiments upon the train oil, and the least in those upon the vegetable oils, the latter adding little or nothing to the weight, and appearing to do little good, except in occasionally relieving the cough. I believe that no other fish oil can compare with that of the cod-liver, and that however much other oily substances may effect in phthisis, they all lack that peculiar principle—whatever it be—which renders the cod-liver oil so valuable. Although it cannot be said that cod-liver oil is a really curative agent, I am sure that it greatly prolongs the life and lessens the troubles of the consumptive invalid.

In reviewing the preceding observations, it has occurred to me, as doubtless it will occur to others, that I have shown not how *much* can be done, but rather how *little* can be done, for phthisis by physic alone.

In the treatment of all chronic diseases, but particularly in consumption, *mental and hygienic tonics* are quite as important as material ones, or perhaps more so. Change of air and scene, new habits and associations, fresh circumstances of life, renewed hopes and anticipations, are, indeed, great agents in our hands. That medical tonics in their various forms, judiciously applied according to special circumstances, are powerful and useful adjuncts, I am quite convinced; but the belief that any of them ever has had, or ever will have, a *specific* effect upon the disease, so as to "stamp it out," neither experience nor reasoning permits me to entertain.

ON THE PRACTICE OF COUNTER-IRRITATION.

BY W. H. DICKINSON, M.D. CANTAB. F.R.C.P.

Physician to the Children's Hospital, Assistant Physician to St. George's Hospital.

The art and the science of medicine appear in the present day to have contracted an alliance which cannot fail to lead to important changes in practice. For long centuries the art of healing, to give it a better name than it generally deserved, was exercised in almost total ignorance of the laws which regulate the processes of human growth, sustenance, and decay. But now the blind and tentative wanderings of therapeutics have obtained a certain amount of direction from physiology and pathology, which have crept up slowly in the rear. The association of the healing art and its directing science reminds us of the old fable of the blind man with the lame man upon his back. The remedial art, full of activity and vain confidence, walks on apace until, warned by repeated disasters, it is driven to accept a burdensome but intelligent guidance. Lame science and blind practice now travel in company, but not without occasional disputes.

I ventured to ask thoughtful physicians to reconsider the old system to which the name of counter-irritation is commonly applied. By this I mean the practice of applying irritants to the skin which overlies, but is not necessarily connected with, an inflamed or diseased structure. I have no wish to deny that deep-seated disease may sometimes be influenced by external applications, but I question whether we have evidence to warrant the belief which our practice implies, that, by establishing on the surface a change of an irritative or inflammatory kind, we direct an influence antagonistic to changes of the same sort in organs which lie in a substratum vertically below, though without anatomical connexion.

The custom of placing blisters, iodine, croton oil, or other irritants to the chest in diseases of the lungs, to the belly in diseases of the stomach or bowels, to the back in diseases of the spinal cord or kidneys, are examples of the practice to which I refer.[1] It is easy to show that there is no direct communication in these cases, by nerves or blood-vessels, between the skin and the organs which it is desired to influence; and it is not easy, or, perhaps I may venture to say, it is not possible, to show how the deep inflammation can be advantageously influenced by such proceedings.

Dr. Risdon Bennett has said[2] as much as an enlightened physician can say in favour of counter-irritation, and I feel myself in a very unsatisfactory position in even partially differing in opinion from any one who can bring such wide observation and extensive knowledge to the discussion of a practical question. Dr. Bennett defines counter-irritation as the application of measures which, by their irritant action, attract blood to one part of the body, and so influence morbid action in another. This definition, however, does more than justice to the common practice, since it includes nothing but what may be beneficial. It embraces some therapeutical proceedings of undoubted value, but says nothing about the tradition which makes the virtue of counter-irritation depend upon superposition, regardless of structural connexion, and can scarcely be held to comprise the common use of blisters and other irritants. I think the idea at the bottom of counter-irritation is that of superseding one morbid action by another, rather than that of moving blood from place to place. We can scarcely suppose that the small amount of blood which collects or moves in consequence of the application of blister, or even of a moxa, or hot iron, can be much missed elsewhere. It may be well to separate irritants from derivatives, to distinguish applications which irritate or excoriate the skin, without effecting any decided transposition of blood, from those which act upon the blood-vessels in a manner especially designed to attract, imprison, or discharge their contents.

There is no doubt that blood-letting, if considerable, from whatever vessel the blood be drawn, may influence the system at large, and may tell upon any or upon all organs. If the blood be only temporarily withdrawn, similar effects may be temporarily produced. The plan introduced some years ago of enclosing a limb in an exhausted chamber, has been known to produce constitutional results. The centrifugal bed of Darwin, by causing the blood to leave one part of the body and collect in another, could replace, to instance the effect upon the brain, the symptoms of congestion by those of anæmia changing a state of excitement to one of syncope.

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[1] St. George's Hospital Reports, vol. iii.

[2] See *The Practitioner*, June 1869.

In the same manner, but to a much smaller degree, there can be no doubt that mustard poultices, causing injection of an extensive surface, may cause changes of an opposite nature elsewhere. Of this process Dr. Bennett has given some instances. Whence the blood will be derived which fills the boot, or reddens the skin under the mustard plaster, will necessarily depend upon the course of the vessels which supply the injected capillaries. A mustard poultice upon the chest will draw blood from the vessels of the thoracic wall, and through them from the aorta or vena cava. The rubefacient will not make any demands upon the circulation within the lung, except through these great vessels. And considering how small a proportion of the contents of the aorta or vena cava can be withdrawn by such means, we may infer that the loss in the branches secondarily affected must be infinitesimally small, and will occur not especially in the lung, but equally elsewhere. We can reach the lung and bronchial tubes only through the general circulation, and the same may be said of many other deep organs, such as the heart, stomach, bowels, and spinal cord, which have no community of circulation with the tissues which surround them. Where there is no continuity of vessels, deviation or depletion, to be effective, must be such as to affect the whole system. The results of depletion can be localised only so far as blood-vessels are continuous. If two sets of capillaries, or two networks of small vessels, are in intimate connexion, it is evident that we may relieve one by withdrawing blood from the other. It is probably on this principle that we must explain the decided advantage that sometimes results in cases of croup from leeching the outside of the larynx. And we may believe that under certain circumstances of pericarditis, or pleurisy, we can relieve the affected membrane by depleting the wall of the chest, which has a vascular connexion, though not of a very intimate kind, with its outer layer.

But Dr. Bennett goes much further than this, and, appealing to clinical observation with all the weight which attaches to his large experience, instances conditions of deep pulmonary disturbance which have subsided after the application of derivative measures to the chest wall. It seems ungracious to question evidence of the kind he has brought forward, resting not only on general credence, but also upon his own observations. The argument from experience, however, in the cure of disease, is often peculiarly liable to error. Some of the affections adduced as yielding to external applications, the paroxysmal dyspnœa of phthisis and cardiac asthma, are of short or uncertain duration, and perhaps may yield as much to time as to mustard. Hepatitis, intestinal inflammation, congestion of the ovaries, and ulceration of the stomach, all adduced as yielding to the application of blisters to the superjacent integument, are disorders not so certain of diagnosis, nor so constant in their progress, as to afford a sure basis for a therapeutical deduction. It must require a great accumulation of evidence to overcome the manifest improbability of these diseases being influenced by a remedy which neither involves the whole system in its results, nor appeals in any intelligible manner directly to themselves. The onus of proof rests with the advocates of counter-irritation, and it may fairly be submitted that we have no clinical evidence sufficient to assure us that a blister on the chest directs any especial therapeutic influence to the lung, or upon the epigastrium to the stomach. All our knowledge of vascular and nervous connexions is opposed to such a conclusion.

From the fact that a mustard plaster causes desquamation of the cuticle where it is applied, or in other words that the mustard arrests or alters the nutrition of the epithelial cells with which it comes in contact, I cannot agree in inferring that it works changes in distant and unconnected tissues.

From the frequent occurrence of bronchitis or pulmonary inflammation after the exposure of the chest to cold, Dr. Bennett infers a peculiar correlation between the circulation within the lung and that in the skin covering the outside of the chest. But is it necessary from such facts to draw such a conclusion? Are we warranted in supposing that when inflammation within the chest comes on from cold, that the effect is due to an occult sympathy or unexplained relationship between the lungs and a particular area of skin? Possibly in some cases the external cold may be such as to penetrate the walls and act directly upon the organs beneath. Perhaps more often the morbid result is due to the inhalation of cold air, or to a general arrest of cutaneous secretion.

Dr. Bennett has collected many examples of metastasis, as it is termed, and reminds us that in gout, eczema, and the exanthemata, internal and external affections replace one another; and that with regard to gout in particular, and also, he thinks, in some other conditions, the disturbance may, by external irritation, be attracted to the foot, and so induced to leave an internal organ. This principle, however, so far as our present knowledge goes, is limited to those disorders which are produced by a moveable poison, and does not apply to the numerous inflammatory conditions, continually made the subjects of counter-irritation, which depend upon fixed morbid deposits or mechanical mischief; such, for example, as meningitis, the result of tubercle, or pneumonia depending upon imperfection of the mitral valve. Where there is no virus there can be no metastasis.

Allowing the principle of translation to the utmost extent, we find no reason for associating each organ in a morbid partnership with the nearest cutaneous surface. Gout may fly from the stomach to the toe, rheumatism from the knee to the heart; measles may associate the lung with the whole surface of skin; eczema may travel from the scalp to the bronchial tubes; but we find nothing analogous to the practice of the physician who blisters the chest for pneumonia, or the epigastrium for ulcer of the stomach.

There is no question that, under certain circumstances, some of which Dr. Bennett has referred to, diseases can be influenced through the skin. We are all familiar with the important pathological results of cutaneous injuries. It is known that febrile disturbances may result from superficial irritants medicinally applied, and it is possible that there may be states of health in which such a stimulus may be desirable. We may believe that mustard, dry or wet cupping, and other modes of derivation may be useful when adapted in their application to the structure of the body and the nature of disease. There can be no doubt that serous accumulations may, under appropriate circumstances, be removed by vesication; and it is probable that, as Dr. Anstie[1] thinks, blisters may sometimes be useful in neuralgia, acting upon the extremity of an affected nerve. But let us cease to blister the chest for pneumonia, or to address remedies to the loins which are intended for the kidneys. Let us throw aside all expedients which have no better foundation than the vague ancestral notion that all inflammatory disease depends upon a moveable essence, and that the human body, like a sponge, is equally permeable in all directions.

[1] See Paper by Dr. Anstie, *Lancet*, Feb. 26, 1869.

ON THE MEDICINAL TREATMENT OF ULCERS OF THE LEGS.

BY CHRISTOPHER HEATH, F.R.C.S.

Assistant Surgeon to University College Hospital, and Teacher of Operative Surgery in University College, London.

In the *Lancet* of January 11th, 1868, I gave a brief summary of the methods of treatment I pursue for ulcers of the legs, under the head of "Hospital Out-patient Practice." I wish now to insist briefly upon a few points in connexion with the medicinal treatment of these affections, which in my opinion deserve especial notice. I find numerous authorities upon the subject laying great stress upon the local treatment of the various forms of ulcers by bandaging, by ointments of several kinds, or by lotions; but I do not find that prominence given to internal remedies which a considerable experience in this class of disorders has led me to claim for them. The three drugs which I constantly employ as adjuvants to the local treatment of ulcers of the leg are opium, iodide of potassium, and arsenic; and each has its appropriate class of cases. Mr. Skey has on more than one occasion directed the attention of the profession to the advantage of employing the first of these—opium—in the treatment of ulcers, and lays special stress upon the value of the drug in cases of chronic callous ulcer. I find opium of the greatest service, however, in the small irritable ulcer often found in combination with varicose veins, and also especially in any form of ulcer in which a sloughing action has supervened. I have had recently a case of tertiary ulcer in the leg making satisfactory progress, when it was suddenly attacked with violent sloughing action. This rapidly yielded, however, to the free administration of opium, combined with local poulticing.

In iodide of potassium we have, I believe, a remedy most potent—I might almost say infallible—in all cases of ulcer dependent upon syphilitic taint, if given in appropriate doses. The tertiary syphilitic ulcer is in my experience a very common one, and may be recognised by the peculiar "cachectic" appearance of the sore, the worm-eaten margins, the thin, profuse discharge, and the want of all healthy granulation at the base of the ulcer. These ulcers affect especially the upper part of the leg, are not usually combined with varicose veins, occur in comparatively young subjects, and frequently recur again and again, as is shown by the thin cicatrices seen in their neighbourhood. The majority of these ulcers occur in women, and are traceable in most cases to infection from the husband, either directly or, more often, indirectly through the *fœtus in utero.* In these cases there has often been no genital ulceration, no coppery eruption on the skin; but the patient gets out of health, has ulcers on the extremities, and very generally aborts if she becomes pregnant. A very small dose of the syphilitic poison is sufficient to produce these ulcers, and I believe, though the point is one difficult to be sure about, that congenital syphilis may show itself in this way in comparatively early life, *i.e.* between puberty and twenty. At least I have had more than one patient under my care with ulcers of the leg which rapidly healed under anti-syphilitic treatment, who strongly denied any personal infection.

In order to derive marked and immediate benefit from the iodide of potassium in these cases, the ordinary 3 and 5-grain doses are useless, and it is essential to begin with 10-grain doses thrice daily in combination with an alkali, and to push it if necessary to 15, 20, or even 30-grain doses, though these latter are seldom necessary. Local mercurial treatment, in the form of yellow or black wash, or the white precipitate ointment, appears to hasten the healing of these ulcers; and their recurrence is, I have no doubt, due to non-persistence in the internal treatment until the patient's health is thoroughly restored.

Arsenic is an invaluable remedy in those common cases in which chronic eczema is a concomitant, if not the antecedent, of the ulcer of the leg. In those cases where the skin is irritable and inflamed, and the epidermis dry and scaly, local treatment may be varied without end and a cure will not be produced; whereas, if arsenic be given internally, the leg will rapidly improve and the ulcer heal under any simple stimulant. My experience does not corroborate the rule laid down by Mr. Hunt, of limiting the dose of the liquor arsenicalis to five minims thrice daily. After a careful and extended trial of the medicine administered in this way, I have come to the conclusion that in many cases to produce a cure it is necessary to increase the dose to ten or fifteen minims, and to maintain this high rate until the constitutional symptoms of the drug are produced. The same rule holds in the treatment of ulcers, lupoid or otherwise, on other parts of the body, but I will confine my remarks at present to ulcers of the lower extremity. I am careful always to administer arsenic upon a full stomach, and I find a remarkable tonic effect produced by its exhibition.

I have before me the notes of the case of a woman, aged 56, who came to me in March 1868, with chronic eczema of the leg, and with an ulcer, the edges of which were so hard, that I almost doubted whether there was not some scirrhous infiltration. In April she began taking liq. arsenicalis in five-minim doses thrice daily. This was increased at the end of a month to eight-minim doses, and the leg began to improve rapidly. On June 3d, the dose was increased to ten minims thrice daily, and she took this dose steadily for eight months, the leg getting smooth and healthy, and the ulcer slowly healing. In January 1869, the constitutional effects of arsenic began for the first time to show themselves, and the dose was immediately reduced to five minims, and this she is now taking, the leg being well, and the ulcer at the end of a year being nearly healed and quite soft at the edges.

Another patient, a broken-down woman, aged 60, with bad eczema of the leg and ulcers above the inner ankle, began taking liq. arsenicalis in five-minim doses thrice daily, on January 10th of this year. The dose was increased to eight minims on February 20th, and the skin around the ulcer being healthy, and the ulcer healing, quinine was substituted on May 1st. On July 3d, however, it was manifest that the ulcer was not making progress, and that the skin was becoming scaly and red, and she therefore resumed the arsenic.

I have quoted these cases principally to show that feeble and elderly patients bear and do well under considerable doses of arsenic. I am convinced that the fear of producing toxic effects deters many practitioners from pushing this drug sufficiently far to produce the desired result. I have seen several instances of ulceration in various parts of the body where arsenic has been administered for a length of time without inducing healing, but in which a rapid cure resulted from pushing the dose as above recommended.

Reviews.

Das Chinin als Antiphlogisticum. Inaugural-Dissertation der Med. Facultät zu Giessen. Von ADOLPH MARTIN. Giessen: W. Keller, 1868.

(*Quinine as an Antiphlogistic.* By ADOLPH MARTIN.)

THIS pamphlet—which had accidentally escaped our notice—within small compass presents matters of much importance. The author has made researches upon the action of quinine upon animals, which confirm, and in some respects extend, the conclusions of Professor Binz, as to the power of quinine directly to arrest the inflammatory process by checking the migration of the blood-corpuscles. As the opinions of Binz have lately been criticised with a good deal of freedom, as if they were the unsupported dicta of one observer, it is of consequence that the independent corroborative evidence here brought forward should be widely known.

While Binz and Scharrenbroich had produced a very large amount of evidence apparently proving that quinine, and a number of other remedies, have a specific influence in checking the vital amœboid movements of the white corpuscles, it was left an open question by the former (*Ueber das Wesen der Chininwirkung*, Berlin, 1868),[1] whether or not this influence extended to actual prevention of the passage of the corpuscles through the vascular walls in inflammatory conditions. Dr. Martin addressed himself to the consideration of this further question. His experiments on frogs were conducted on the model of Cohnheim's famous researches; the animals being paralysed with curara, the mesentery was drawn through a wound in the abdominal wall and spread out upon perforated slices of cork for microscopic examination. In a preliminary series of studies the author thoroughly familiarized himself with the phenomena, first described by Cohnheim, which occur when the inflammatory process is allowed to develop itself unchecked. He then began comparative experimentation: two frogs of equal size being simultaneously paralysed with curara, in one the inflammatory process was allowed to run an uncomplicated course, in the other quinine was injected subcutaneously; every stage of the subsequent changes was in each case sedulously watched. This double experiment was repeated with several pairs of frogs; and, besides this, the effect of directly painting the mesentery with a solution of quinine was tried in several instances. The results were very decided. In the animals not treated with quinine the characteristic dense agglomeration of white corpuscles along the walls of the vessels was strongly marked, and the migration processes went on freely; simultaneously there was notable dilatation of the vessels and slackening of the stream. In the frogs treated with quinine, all these phenomena were invariably much more feebly developed, sometimes they were only present in trifling degree. In the sixth experiment, the direct application of quinine to an already inflamed mesentery, in which extensive migrations had already taken place, produced evident and notable changes in the white corpuscles; these did not cease to migrate, but became dark, granular, and indented, and lost their vital movements as soon as they had passed outside the vessels.

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[1] See *Practitioner*, August 1868.

Besides these experiments, Martin made some observations on dogs, in order to test the assertion of Binz and Scharrenbroich as to the effect of quinine in diminishing the number of white corpuscles. As with the frogs, two animals of equal size were simultaneously and comparatively experimented upon. The result of this research was very remarkable, the difference between the numbers of white cells being far too great and too constant to have been the result of accident; and, moreover, it was evident that, as the action of a single dose of quinine passed away, the white cells began to multiply again with great rapidity.

The final series of experiments made by Martin were directed to the novel object of testing the cause of events in parenchymatous organs; and, after expending much trouble, he succeeded in following the cause both of the simple and the modified inflammatory process in the liver of the frog. Here, again, the effect of the quinine was unmistakeable.

The general results of the whole inquiry conducted Martin to the following conclusions:—1. Quinine limits the pathological migration of the blood-corpuscles into the tissues of the membranous and parenchymatous organs exposed to the air, both when it is given subcutaneously and when it is directly applied to the part. 2. It produces this effect, (*a*) by impairing the vital properties of the existing white corpuscles, (*b*) by hindering the generation of new white corpuscles, and (*c*) by restraining the dilatation of the vessels. 3. Quinine acts as an antiphlogistic, by reducing all the visible factors of suppurative inflammation. 4. The use and the efficacy of quinine in other pathological conditions distinguished by multiplication of white cells, *e.g.* typhus, leukæmia, &c., is based upon and explained by its relations to the life and the formation of these corpuscles.

We strongly recommend our readers to study this pamphlet of Dr. Martin's, which certainly conveys to our minds the impression of thorough and patient scientific research leading to sound conclusions. It is difficult to exaggerate the importance of the therapeutic ideas which have been put forward with so much energy and ability by Professor Binz; and although experience forbids us to hope that quinine or any other drug can prove a universal specific for the inflammatory process, it will be a great gain if further observation shall confirm the accuracy of researches which throw such a flood of light upon the way in which one kind of inflammation, at least, can be scientifically arrested. It is impossible not to feel more hopeful for the future of scientific therapeutics when we read the results of such labours as those of M. Martin.

Lehrbuch der Hautkrankheiten. Von Dr. ISIDOR NEUMANN. Wien: Braumüller, 1869. 8vo. Price 15*s.*

(*Manual of Skin Diseases.* By Dr. ISIDOR NEUMANN.)

Traité des Affections de la Peau. Par le Dr. E. BAUDOT, d'après les doctrines de M. BAZIN. Paris: F. Savy, 1869. 8vo. Price 6*s.*

(*A Treatise on Skin Affections.* By Dr. E. BAUDOT, following the doctrines of M. Bazin.)

A GOOD opportunity is afforded, by the almost simultaneous appearance of the two works above mentioned, for a study of the recent dermatology of Germany and of France. Upon the pathological contents of these volumes we shall of course say little, our main object being to examine their therapeutic teaching; a few words are, however, advisable.

We hope we may be forgiven for saying, that of all the hopeless subjects—of all the distracting studies—with which we are acquainted, that of skin disease classification is the most bewildering and enraging to the ordinary physician. It is all the more irritating because there seems a general agreement of opinion among those who have the largest practical knowledge, that all this elaborate word-apparatus is perfectly unnecessary, and that in fact as much practical good in treatment can be done by those who ignore it as by those who cherish and magnify it. But if we must choose between the elaborateness of the French and that of the German dermatologists, we cannot hesitate to accept the latter as by far the most preferable. There is at least a solid basis of observed fact for the greater part of Hebra's classification, which Dr. Neumann (his former pupil) adopts. But the doctrines of M. Bazin (here put forward by a distinguished pupil, M. Baudot) lead him to a classification which is not merely elaborate, but is based on hypotheses which have always appeared to us utterly unwarranted, and calculated indefinitely to retard the progress of scientific skin-pathology. We cannot admit that there is any scientific proof of the theory that the diseases grouped by Bazin as "Arthritides" are really all under the domination of an arthritic diathesis, or that those associated by him under the name "Herpetides" are the common offspring of a constitutional "Herpetis." The idea of this classification appears to us to be distinctly ontological; and although in the case of physicians so experienced as MM. Bazin and Baudot it may not interfere with the attainment of a good practical command of the resources applicable for treatment, there can be little doubt in our mind that its misleading effect upon inferior practitioners must conduce to a very bad style of practice; for it is always the lower order of so-called "practical" men who make the very worst use of traditions which are based on metaphysical dogma.

It is agreeable to turn from the theoretical side of the subject to the practical remedies which are laid before us in these two works. The general remarks on treatment by Neumann (p. 36) are particularly gratifying. He gets rid at one sweep of the whole series of internal remedies which used to encumber the dermatologist's Materia Medica, and recognises only arsenic, mercury, quinine, iron, cod-liver oil, iodide of potassium, and carbolic acid, as of real use. Nor is his list of external remedies very long. Besides the various kinds of baths and other applications of water, he mentions sulphur, the preparations of tar, and its distillative products (carbolic acid, &c.), the various soaps, and the series of caustics (arg. nitras, caustic potash, corrosive sublimate, the strong mineral acids, and chromic acid; the Vienna paste; the arsenic paste; Landolfi's paste of the chlorides of bromine, zinc, and antimony; chloride of iron, Plenk's paste of camphor, corrosive sublimate, alum, &c.; chloride of zinc, alum, calomel). It is a great thing to hear the inheritor of Hebra's vast experience say, with so much confidence and clearness, that we may do great things with so moderate an armamentarium.

On the other hand, the therapeutics of M. Baudot, though seriously marred, as we think, by the theoretical basis on which Bazin's diathetic doctrines rest, are on some points much fuller than those of Neumann, and include some matters which are conspicuously wanting in the German treatise. Especially is this the case with regard to the subject of the action of mineral waters in skin diseases, as to which Neumann's treatise must certainly, we think, be pronounced defective, while Baudot's is careful and good.

Certainly, every English student of medicine, and not merely every professed dermatologist, would do well to read these two works, as they could hardly elsewhere obtain, in so small a compass, an accurate account of two of the most dermatological systems existing.

Theory of the Treatment of Disease adopted at Ben Rhydding. By WILLIAM MACLEOD, M.D., F.R.C.P. Edinburgh, Senior Physician to Ben Rhydding.

WE owe an apology to Dr. Macleod for a quite unintentional slight. In a notice of Dr. Küchenmeister's work on the cold water treatment of disease, we reproached the English medical profession with leaving hydrotherapy in the hands of uneducated persons. We, of course, had no idea of including Dr. Macleod in that description; and as he has recalled himself to our memory by forwarding his work on the treatment adopted at Ben Rhydding, the present is a favourable opportunity for an examination of what has been done by Dr. Macleod in the twenty years during which, as he tells us, he has laboured to establish hydropathy on a scientific basis in this country.

It would doubtless be an injustice were we to criticise too strictly the brief, not to say hasty, character of the sketch which is given in this volume of the author's principles of treatment. It may be allowed that the object of the writer might be legitimate enough, although he made no attempt to produce a complete treatise on general therapeutics, or even on hydrotherapy. He might well allege that his only desire was to give the medical profession a general idea of the style of his practice, and the degree in which it corresponds with or differs from the treatment in ordinary use. We have considered this, and have read Dr. Macleod's book, making all necessary allowance, but we are sorry to say that the result of our study of this little work is not particularly flattering to the author.

We may admit that there are one or two subjects treated of in the book which possess a real interest to the profession; for instance, the effects of the compressed air treatment. Ben Rhydding is almost, if not quite, the only place in this country where this method can be seen in action, and Dr. Macleod's account of its effects, though somewhat hazily expressed, appears to afford a rather interesting confirmation of some of the facts observed at Reichenhall and elsewhere by much more competent persons than Dr. Macleod. Another matter which also interested us is the account of the use of hydropathic measures in cases of exophthalmic goitre, and we are not surprised to hear that they were decidedly successful. But the rest of the book is rubbish. There is a wonderful statement about the diseased action having, as a rule, its commencement in irritation of the vaso-motor nerves ramifying on the capillary blood-vessels, &c. But the climax is reached at pages 32-4, where the author describes a hitherto altogether unknown group of diseases, the effects of close intermarrying. The reader will learn with astonishment that when cousins intermarry for four or five generations, the offspring at last begotten are liable to—we were going to say, spontaneous combustion—but really it seems to be a good deal like it. The poverty of vital force in these wretched beings is so great—"the chemical elements of the body appear to be so loosely held together, that the least derangement instantly causes a more rapid waste of tissue, the formation of new chemical compounds, and a great development of heat; a state of fever is thus frequently produced, often assuming a typhoid character and terminating in death, *after which putrefaction goes on with amazing rapidity*. [The italics are ours.] This condition of the chemical elements of the body may be illustrated by the loose chemical combination of one of the atoms of oxygen in hydric peroxide, when even a slight increase of heat, or the mere presence of charcoal, or finely divided platinum, causes at once its separation from the hydric compound." ! ! ! It gives a serious shock to our sensibilities to reflect that our aristocracy, who are so particularly given to repeated intermarriages, must by this be almost universally in a state of loose combination, and ready to putrefy with amazing rapidity on the slightest provocation. However, the profession and the upper classes will be glad to learn that a good long stay at Ben Rhydding eradicates the putrefaction tendency; at least this was the result in three cases of this peculiar state of the organism which Dr. Macleod has had under treatment.

After this choice bit of nonsense, it is rather a relief to find that Dr. Macleod is a homœopathist; at least at page 80 we are favoured with the dictum that mercury is a specific in syphilis, for it will in large doses produce symptoms resembling that disease. On the whole we do not see that Dr. Macleod has improved his position by claiming special notice and a special exemption from our disparaging comments on the manner in which hydropathy is applied in the generality of English establishments for the water-cure. We don't for a moment question that patients often receive benefit at Ben Rhydding. But we do say that the work in which Dr. Macleod explains his theories of disease and his principles of treatment is not particularly creditable to an educated member of the profession.

The Practice of Medicine. By THOMAS HAWKES TANNER, M.D., F.L.S., &c. &c. In 2 vols. Sixth Edition. London: Renshaw, 1869.

DR. TANNER'S well-known compendium of medicine here appears in a sixth and very considerably enlarged edition. It now fills *two* very handsome volumes. It is superfluous to say that a work on general medicine which has obtained so large a success must have filled a great want felt by the numerous practitioners who are scattered over the country. And it is highly creditable to the author that while immersed in busy professional work he has found time, within the last two years, to make so many and such valuable additions to his book. We have only had time to turn over the pages rather hastily, but we notice, *e.g.*, a moderate and just appreciation of the limits within which the sphygmograph is really useful as an instrument of diagnosis and prognosis, an accurate representation of the recent doctrines about phthisis, a good account of cerebro-spinal fever, of the more recent researches as to the action of alcohol, &c. Under the head "Inflammation," however, we think the author should certainly have introduced an account of the important discovery by Cohnheim of the migration of the blood-corpuscles.

As before, the value of the work is much augmented by a copious appendix, containing prescriptions, notes on mineral water, &c.

Ueber die Anwendung der Einreibung des Unguentum Stibio-Kali tartarici in die Scheitel-gegend in bestimmten Psychosen. Inaugural-Dissertation von OTTO WILHELM MADELUNG, aus Gotha. Bonn: 1869.

(*On the Application of Inunction in the Tartar Emetic to the Treatment of some Mental Diseases.* By O. W. MADELUNG.)

THIS treatise appears to suggest matters of real practical importance to those who are concerned with the treatment of insanity. No doubt the practice of tartar emetic inunction, carried out in the manner indicated in this essay, is at first sight a measure of great severity, and such as English alienist physicians are accustomed instinctively to dislike. But we must say that the facts contained in this pamphlet seem to speak for themselves with considerable weight; and we have, moreover, received the personal testimony of one of the physicians to the asylum at Siegburg, where the experiments were carried out, to the undoubted value, as he thinks it, of this method of treatment. He informs us, however, that it requires much practical tact, both to select the right cases, and also to enforce and carry out regularly the treatment, which is of course very disagreeable, as it causes painful inflammation of the scalp, &c. We must say that all our prejudices are against the treatment, but that the facts narrated induce us to suspend our judgment.

Diseases and Injuries of the Eye; their Medical and Surgical Treatment. By George Lawson, F.R.C.S., Surgeon to the Royal London Ophthalmic Hospital, Moorfields, and Assistant-Surgeon to the Middlesex Hospital. London: Renshaw, 1869. Price 7*s.* 6*d.*

This handy and beautifully printed little volume is as good in the quality of its contents as it is attractive to the eye. Mr. Lawson has long been known as an ophthalmic surgeon; he has enjoyed a large experience, and he has the faculty of telling his story clearly. He has here given us a manual of almost pocket size, in which the practitioner will find short and clear descriptions and directions for the treatment of every kind of eye disease.

The matters which strike us as the most notable are the following:—In a very careful chapter on "Iritis" (in which, however, we regret that no notice is taken of the interesting question of neuralgic influences), the author makes some sensible remarks and suggestions on classification. We observe that he is unhesitating in his adhesion to mercury for the syphilitic form. In a brief chapter on "Glaucoma," a good description of the disease and its treatment by iridectomy is given; we are glad to see that the author has expressed himself with decision and energy as to the high practical value of that treatment, and as to the ignorance and prejudice which alone resist its universal recognition. Under the head of "Cataract," we have been struck with the great importance of the protest which Mr. Lawson makes against the simultaneous performance of extraction upon both eyes. Our own attention has been repeatedly called to the recklessness with which this double operation is done by eminent ophthalmic surgeons, and to the calamity of total loss of sight which not unfrequently follows it. In a few plain and sensible words, our author points out, as we think, the unmistakeable folly of this procedure. The form of operation which Mr. Lawson prefers is a slight modification of Graefe's "modified linear" extraction, which the reader will find at p. 120. The chapter on "Tumours" is well done throughout, and a particularly interesting point is the great practical success which is shown to attend the treatment of *orbital* tumours with chloride of zinc. In a chapter on "Amaurosis and Amblyopia," the author has taken the trouble to unravel carefully a singular tissue of confusions and blunders by which these very different disorders have been mixed up with others—a mistake which has crept even into the excellent modern works of Liebreich and Soelberg Wells.

Another novelty, and as it seems to us an important one, is the way in which Mr. Lawson deals with the subject of paralysis of ocular muscles; he shows that single muscles, and small groups of muscles, may be *picked out*, by the paralysing influence of a distal irritation, just as infantile reflex paralysis (from dentition, &c.) unquestionably will select particular leg-muscles in the most seemingly capricious way. The chapter on "Injuries" is of course excellent, being an abstract of the able monograph which Mr. Lawson has already published on this subject. It only remains to notice two other novelties, "Distension of the Frontal Sinus," and "Proptosis from inflammatory exudation" (which, so far as we know, have not been mentioned by other authors), and to draw attention to the very useful formulary with which this capital handy-book concludes. The work is sure to become very popular, and to enjoy a large circulation.

Cases of Syphilis treated without Mercury. By CHARLES R. DRYSDALE, M.D., and ROBERT WILLIAM DUNN, Esq., M.R.C.S. London: H. Baillière, 1869.

THIS pamphlet is just the kind of essay with which we find it, as reviewers, most difficult to deal. Its authors are able and respected practitioners, and in so far as they are innovators, taking an independent course unfettered by tradition, they command our strong sympathy. In the case of mercury, moreover, we have been so often disgusted and horrified with the hideous results of unnecessary and excessive dosing, that we are strongly biassed towards a non-drugging system. Here is a pamphlet which records the history of a long series of cases—eighty-five in number—of various kinds of syphilitic affections which had been treated without mercury by the authors, and, according to them, with excellent success. What shall we say? We cannot for a moment dispute the accuracy of the reports here published, though we must say that the brevity of many of them scarcely allows a fair opportunity for appreciating the exact nature of particular cases. We are willing to allow that there is still something to be said on the side of the absolute non-mercurialists, and we are personally firm believers in the impropriety of ever inducing the decidedly *toxic* action of mercury. But a very large and long-continued out-patient hospital practice has shown us absolutely nothing which could for a moment shake our belief in the immense superiority of mercury (used in moderation) to every other drug in several varieties of syphilis, more particularly the visceral and the infantile forms, and certain skin eruptions. We are open to conviction, but it will take very much more than Messrs. Drysdale and Dunn's present pamphlet to convince us that mercury is of no use in syphilis.

Ueber die Chloressigsaüre als Aetzmittel. Inaugural-Dissertation von FRIEDRICH ALBERT URNER. Bonn: 1868.

(*On Chloracetic Acid as a Caustic.* By F. A. URNER. Pamphlet.)

THIS treatise gives an account of researches destined to utilize for medical purposes a substance hitherto only of interest to the chemist. The caustic properties of the monochloracetic and the dichloracetic acids have long been practically and unpleasantly known to observers who have dealt with them as objects of chemical experiment, and the author of the treatise before us once handled some chemically pure crystals of the former, whereupon he at first experienced a soapy feeling of the skin, and afterwards a burning sensation, which was succeeded by vesication, and even suppuration at the parts most strongly affected. The dichloracetic acid is much more rapid in its action, and in practice Urner found a mixture of the two to be the most convenient; the proportions of the respective ingredients being varied according to the energy of cauterization which was required. The author experimented first on the action of the acid on *dead* animal skin—thin kid leather; trying the effects of various caustics comparatively with that of the new agent. The chloracetic acids resembled nitric acid in producing a distinctly *corrosive* effect; but differed from it in the strict *localisation* of the corrosion, that of nitric acid spreading irregularly. Similar results were obtained by experimentation on sole-leather. The action of nitric and of dichloracetic acid upon albumen coagulated by heat was then comparatively examined; after two or three days' contact it was found that the nitric acid had penetrated much the furthest into the albuminous mass,—a circumstance, however, which is due to the *diffusive* power of this acid; for when the experiment was repeated on *hard-boiled* white of egg, it was found that the true corrosive power of the dichloracetic acid was much the greater. Comparative trials of the nitric acid and of the mono- and di-chloracetic acids upon the shaven skin of a rabbit; the general result here was that similar physical differences—as to rapidity of action and diffusion—were observed, as in acting upon *dead* skin; and also that while the nitric acid excited *severe* inflammation in neighbouring parts, the dichloracetic acid, while acting equally intensely in a limited spot, confined its action to that spot, merely causing *slight* inflammation around it.

The clinical part of Urner's research was directed first to the action of chloracetic acid upon *warts*, corns, nævi, &c., and here the caustic effects were extremely good. A more serious trial was its application to an extreme case of condylomata on the glans penis, which had already been treated vainly with various strong local agents. Proceeding cautiously at first, Urner came finally to use pure dichloracetic acid to the whole of the extensive diseased surface, and to loosen the sloughs applied soda solutions. Naturally this gave some pain, but the patient repeatedly declared that it was far more endurable than the suffering which had been previously caused by ligaturing some of the condylomata; and comparative trials of cauterization with nitrate of silver proved that the latter, also, gave more pain than the acid. The final result of the treatment was excellent. The next trial of the acid was on a papilloma of the foot, one and a half inch in diameter, and one and a half inch high—the treatment was quite successful. Urner now applied the caustic to a lupus exulcerans, and at the time of writing had to report that a considerable portion of the diseased skin had become healthy. Finally, he employed the remedy in a case of large syphilitic condylomata of the thighs with perfect and rapid success.

The general result of the experiments and observations seems to be to establish the chloracetic acid as an excellent caustic, very powerful, and at the same time very manageable; and we commend it to the serious attention of English practitioners. A final word or two must be said as to the chemical constitution of the new agent. The weaker, *mono*-chloracetic acid ($C_4\,H_3\,Cl\,O_4$), is acetic acid ($C_4\,H_4\,O_4$), of which one atom of hydrogen has been substituted by one atom of chlorine. Dichloracetic acid is the result of a further substitution of one atom of hydrogen by one atom of chlorine ($C_4\,H_2\,Cl_2\,O_4$). This is according to the old system of notation.

Ueber die Wirkungen des Calabar-Extractes auf Herz u. Rückenmark. Inaugural-Dissertation von HERMANN ROEBER, aus Berlin. Berlin, 1868.

(*The Action of Extract of Calabar Bean upon the Heart and Spinal Cord.* By H. Roeber. Berlin. Pamphlet.)

THIS little essay appears a very striking performance, when we remember that it is only a thesis of a candidate for the M.D. of Berlin University; for it is evidently the work of an accomplished physiologist trained by long habits of careful study and of original research. It has, in the first place, the merit of presenting in a concentrated form every fact and opinion of the slightest importance with regard to the action of calabar bean which has been put forward by other observers. And, secondly, it records a long series of the most painstaking and careful researches by the author, in which he tests the correctness of previous theories upon every point concerning the action of the drug. The conclusions at which he arrives, and which confirm in a distinct way the statements of Professor Fraser, of Edinburgh, are summed up as follow:—1. The chief action of the bean consists in a depression and final annihilation of the excitability of the ganglionic elements of the spinal cord, and its operation especially affects the groups of cells in the anterior horns of the grey matter which conduct impulses from the brain to the periphery, and then attacks also the elements of the grey matter in the posterior horns, which transmit sensations of pain to the brain. 2. By this functional lesion of the grey matter a complete loss of the motor and reflex activity of the spinal cord is produced, likewise a loss of sensibility to pain; while the sense of touch, and the so-called muscular sense, are retained till the death of the animal. 3. Besides this action on the cord, calabar bean possesses a special power over the movements of the heart, which in small doses it merely retards, but in large doses completely arrests. This action of the poison depends upon a diminution of excitability, and a final paralysis of the excito-motor cardiac nervous centres. 4. The interference with respiration, which is especially produced by small doses, is either the consequence of a sudden affection of the heart's action, or is produced by a destruction of the motor power of the respiratory muscles from paralysis of the spinal cord. 5. The poison increases the secretion of tears and of saliva. 6. The increase of defæcation observed in poisoning with calabar bean is the result of a tetanus of the stomach and of the intestines, the cause of which is not yet fully determined. 7. The motor and sensory nerves are not affected at the commencement or in the development of the affection of the cord; at a later stage there follows a paralysis, or a hastened death of the intramuscular termini of these nerves. 8. The fibrillary muscular twitchings occurring soon after the administration of the poison, which are especially striking in mammalia, may be explained by a local irritation of them caused by the paralysis of the motor nerve-termini. 9. The "pupils are strongly contracted both in the external and the internal use in large doses of calabar bean extract; but as to the cause of this, it will be necessary to institute more exact inquiries."

Independently of its other merits, this essay will be found most useful from the exhaustive list of references at its conclusion to the writings of every other observer who has investigated the action of the bean.

Clinic of the Month.

Iodide of Potassium in Aneurism.—Dr. G. Balfour, physician to the Edinburgh Royal Infirmary, continues this subject (vide *Practitioner*, August 1868) in a recent paper. In this he details the facts of eleven cases of aneurism treated with the iodide: the success obtained certainly seems encouraging. In all cases where the treatment was carried on for a sufficiently long time, there was not only relief of the symptoms, but a positive improvement; and the author thinks that the facts tend to show that the iodide has a curative and a preventive influence over the aneurismal diathesis. (See *Edinb. Med. Journ.* July.)

Treatment of Retention of Urine.—Dr. J. W. S. Gourley, Professor of Clinical Surgery in New York University, has invented a new catheter for use in retention arising from stricture, especially where there is a false passage. The catheter nearly corresponds in size with the English No. 3, and is conical, its point being about equal in diameter to No. 1. A groove in the convex side extends about four inches, and is bridged over in its last twelfth of an inch so as to form a canal for the reception of a delicate whalebone guide. The catheter eye is on the concave side of the instrument, about three-fourths of an inch from the point; and is kept closed by a well-fitting stillet. The curve of the instrument is equal to one-fifth of the circumference of a circle three and a quarter inches in diameter. The urethra is filled with olive oil by a syringe, and an attempt made to introduce a fine-pointed whalebone guide (about one quarter the diameter of a No. 1 catheter, and the length of an ordinary bougie), the point of which may be made temporarily spiral by immersion in boiling water, and then twisting round a small staff and suddenly cooling it. If its point becomes engaged in a lacuna, it must be withdrawn a little and then pushed on with a rotatory movement. If it enters a false passage, it must be kept *in situ* while another is passed by its side. If this also enters the false passage, the same process must be repeated, and so on till one guide does pass the obstruction and enter the bladder. As soon as this is accomplished, the other guides are withdrawn, the far end of the retained guide passed through the canal at the end of the catheter, and the latter carried down the urethra along the guide till its point reaches the stricture. Generally, with slight pressure in the right direction, the catheter passes the stricture and enters the bladder. The guide may be kept in position after the withdrawal of the catheter, and dilatation carried on with successively larger catheters, or by splitting with a Holt's or a Thompson's instrument, modified with the canal for the guide; or internal urethrotomy may be practised with any urethrotum (modified with the canal), or the retention catheter may be made available in external urethrotomy, instead of a Syme's staff. (See *Lancet*, June 19.)

Poisoning with Tobacco.—As a pendant to the cases of poisoning from imprudent external application of tobacco-decoction, which we last month quoted from the *Bulletin de Thérapeutique*, we should have mentioned an even more striking case related about the same time by Dr. M. Evans, of Narberth. A little child had ringworm, and an old woman recommended the oil and ash from an old much-used tobacco pipe to be applied. A very small quantity was used, but the effects were rapid and powerful; vomiting, choking, loss of power of limb; then complete unconsciousness, pulselessness, slow breathing, cold surface. The part to which the tobacco had been applied was washed clean, and the little patient was roused, and stimulated with ammonia and coffee. It soon resumed consciousness, and in an hour was out of danger (see *Lancet*, June 19). The large amount of evidence which now exists as to the facility with which the essential matters of tobacco are absorbed by way of the skin draws our attention once more to the subject of the hypodermic use of nicotine in tetanus. There are very many records scattered here and there, which tend to prove that tobacco exerts a powerful influence in tetanus; but it is a most dangerous and unmanageable drug in any form except that of the subcutaneous injection of nicotine: and we should much like to see this plan extensively tried. It has already produced brilliant results in more than one recorded case.—Ed. Practitioner.

Turpentine in Uterine Hæmorrhage.—Mr. Garraway, of Faversham, relates a case in which turpentine saved a patient who was apparently in a hopeless condition from hæmorrhage two days after labour. One ounce of turpentine diffused in mucilage was injected as high as possible into the rectum; the patient had been previously insensible, with cold and sweating skin, and commencing shrivelling of the surface, but after the turpentine she soon opened her eyes, and swallowing became possible, after which brandy, eggs, &c., were administered with the best effect. (See *British Medical Journal*, July 10.)

Persulphate of Iron Injections for Varicose Veins, &c.—The great value of the persulphate of iron on account of its not being caustic (although it is powerfully coagulative), and of the small quantity of it that need be used, is becoming rapidly recognised. Mr. Morgan, of Dublin, reports several successful cases. One was an enlargement of the saphena veins of both limbs in their entire course; a second was an irregular varicose dilatation on the inside of one leg; a third was an erectile tumour of the scalp; and a fourth was an instance of external piles. From three to five drops was the quantity of the tincture injected. (See *Medical Press and Circular,* July 14.)

Signorini's Tourniquet in Popliteal Aneurism.—A patient under Mr. Eager, at the Surrey County Hospital, had popliteal aneurism. Flexion had been tried, and besides giving a good deal of pain had failed to affect the tumour. The leg was now unfastened, and a Signorini's tourniquet was applied to the artery in such a way as just to stop the circulation. In twenty-five days pulsation had entirely ceased, the tumour was much smaller, and quite hard and solid. The cure was virtually complete from this moment, though the patient remained some time longer in hospital. (See *Lancet,* July 10.)

Traumatic Suppuration of Knee-joint treated by Early Incision.—A case of this kind, under the care of Mr. Atchley, at the Bristol General Hospital, is interesting, as showing not merely the value of the surgical treatment in question, but also as demonstrating the good effect of alcohol as an antiphlogistic. The temperature and pulse continued to rise, after the operation, until eight ounces of brandy daily were given, when they began to fall continuously. Recovery took place without any unfavourable symptoms, and the man made a complete recovery. (*Ibid.*)

Simple Puncture of the Knee-joint in Synovitis.—Dr. J. Fayrer, of Calcutta, argues in favour of the performance of this operation, provided that it be performed with great care; and he gives five cases, in all of which it proved successful. The author thinks that the injection of iodine is a serious and probably unnecessary risk. He closes the wound of puncture with lint, saturated in solution of gutta-percha in chloroform. If by chance the wound did not immediately close, it was subsequently dressed with carbolic acid, in the usual way. The author is quite satisfied with the operation even in acute cases, and doubtless in chronic effusions it might be adopted with the most perfect impunity. (See *Indian Medical Gazette,* June 1.)

New System of Abscess Drainage.—Mr. R. Ellis describes a plan by which very effective drainage of an abscess may be obtained. He uses drainage tubes made of fine hard brass wire, which has been closely coiled round a steel rod. The steel rods may be common knitting needles, of various sizes, and the wire may be coiled on them either by hand or by lathe. If the former plan be adopted, one end of the rod is to be fastened in a vice, and then the wire is very slowly and carefully twisted round. The tubes made in this way are perfectly good, only they are not quite so neat as those made in a lathe. Mr. Ellis was first led, some years since, to the invention of these tubes by the difficulty he experienced in a case where the cavity of the uterus kept filling with fœtid pus, and it was impossible by ordinary methods to keep the cervix patent for the escape of the fluid. In dealing with an ordinary abscess, the wire drainage tubes can readily be introduced through any opening or sinus, either by fitting them on a probe, or without this help, by giving the tube a wriggling, coaxing motion. The following valuable testimonial to the superior efficacy of the wire drainage tubes is given by Mr. Paget, who writes to the inventor:—

> DEAR MR. ELLIS,—I have now used your spiral-wire drainage tubes in cases sufficient to prove to me that they have these following advantages over any other means of drainage that I have yet seen:—
>
> They can be placed in sinuses of very small diameter, and with equal advantage whether the sinus have one or more openings.
>
> Their bore is not diminished by bending them to any angle.
>
> They cannot be flattened or shut up by contraction of the orifice of the sinus.
>
> They can be inserted with very great facility; and can be worn for any length of time, in fit cases, without causing irritation.
>
> They are cleanly, and excite no decomposition in pus or other fluids.
>
> Sincerely yours,
> JAMES PAGET.

—(See *Lancet*, July 24.)

Sulphurous Acid as a Remedy for Vomiting.—Dr. Charles Drysdale relates a striking case of dyspepsia (probably gastric catarrh) occurring in a woman, aged thirty-six. For a month before coming under treatment she had suffered from eructations and vomiting of all her meals. For a fortnight she was treated with hydrocyanic acid, with bismuth, and with effervescing draughts; but no impression was made upon the disease. Dr. Drysdale then prescribed half-drachm doses of sulphurous acid, to be taken three times a day; the effect produced was very immediate and striking. Within twenty-four hours of taking the first dose of the new medicine the vomiting altogether ceased, nor had it returned at all at the date of the report, three weeks later. (*Ibid.*)

[This case appears to give support to the ideas which are now held by some with regard to the pathology of pyrosis, according to which it is a gastric catarrh attended with, and not improbably kept up by, the presence of low organisms in the stomach fluids.

It is upon this principle that sulphurous acid has been recommended and successfully used by Lawson and others, viz. as a parasiticide; and upon the same principle carbolic acid has been recommended by more than one authority. Certainly, the ordinary treatment of severe pyrosis, with bismuth, hydrocyanic acid, &c., is unsatisfactory in the extreme.—ED. PRACTITIONER.]

Death after Vaccination.—An inquest was held a few days ago upon a child, eleven weeks old, who died of erysipelas after vaccination. This and one or two other cases of the kind which have arisen have given an impetus to popular excitement. The old fabulous stories and foolish notions as to the frequent production of serious or fatal infective disease by vaccination are reproduced with increased vigour and fertility, and we are sorry to say that this time there is more excuse than usual for the prevailing fever. A very able physician, Dr. H. Blanc, is advocating the exclusive use of vaccination direct from the heifer; and his views having been accepted with surprising warmth by one of the medical journals, there is some danger of a most premature and impracticable, and as we think totally unnecessary, clamour for the discontinuance of the present system. We put in this note to announce our entire disapproval of these hasty measures, and our intention, on account of the great practical importance of the question, to deal with it at large in an early number of the *Practitioner.*

Extracts from British and Foreign Journals.

Hypodermic Injection of Morphia in the reduction of Hernia.—Dr. Ravoth reports some remarkable results from the subcutaneous injection of morphia in cases of hernia which had previously resisted the taxis. Quarter grain doses were used. (*Berlin. Klin. Wochensch.* Juni 7.)

Parasiticide Treatment of Diphtheria.—Dr. Ludwig Letzerich is a firm adherent of the doctrine that diphtheria depends on the presence of a parasitical fungus. In order to its cure he holds that we must remove the fungi with the undermined and transformed epithelium or diphtheritic exudate. In the early stages this may generally be best effected by repeatedly scraping off the exudate with a moist rag dipped in alum powder and wrapped round the forefinger; or the rag may be dipped in a warm solution of alum, and then rubbed on the palate, tonsils, and pharynx. Wherever fungi have been, one sees, after they have been rubbed off, red, irregular-shaped spots left behind. The wiping process must be repeated at least three times a day for some time; for there is a continual reproduction of the thallus-threads. Children who are old enough should gargle with warm solution of alum in the intervals.

In the third stage of diphtheria, when there are extensive and obvious deposits on the tonsils, the above plan is not sufficient. We must scrape off the membrane forcibly, with a nail just covered with one layer of rag dipped in strong hot alum-solution. This must be very frequently repeated; and at least once a day the bleeding surface left behind should be touched with a weak solution of nitrate of silver. For the first three to five days the scraping process must be repeated the moment a new deposit appears. The fresh layers become smaller, and it is now sufficient to repeat the scraping twice a day. It is absolutely necessary for success, to enlist the sympathy and intelligence of the patient's friends, so that they may follow up the process with zeal, and prevent the diphtheritic process extending to the larynx. Alum makes the exudate brittle and its fragments more easy of removal; it also acts very astringently on the bleeding surface left after the scraping. For children of a certain age gargling with alum, with chlorate of potash or with permanganate of potash, is useful in the intervals. No internal remedies are of much use in diphtheria; but astringent preparations of iron, quinine, &c., may be used in circumstances which seem to specially require them. (*Berlin. Klin. Wochensch.* Juni 7.)

Iodine in the Treatment of Malarial Fever.—Professor Willebrand, whose advocacy of iodine in the treatment of typhoid is well known, has recently had the opportunity of trying its effect in cases of intermittent fever. One gramme of iodine and 2 grammes of iodide of potassium were dissolved in 10 grammes of distilled water; 5 drops were to be taken every two hours during the day. The results were very good; both the attacks were speedily cut short. [In fact the success recorded is so uniform as to excite some little doubt, by its mere completeness. However, the paper is very interesting.—Ed. Pract.] (*Archives Gén. de Méd.* Juillet.)

Subcutaneous Injection of Tartar Emetic in the Treatment of Cystic Tumours of the Scalp.—Dr. Kraft-Ebing, of Heidelberg, recommends this plan for the extirpation of the cyst in certain cases. Doubtless, the operative excision is the surest and best for sebaceous tumours, &c.; but in some instances, when the patient is very timid, or the tumour very small, it seems worth while to choose a less formidable procedure. From sundry considerations, Kraft-Ebing was led to inject a few drops of a solution of 10 grains of tartar emetic in half an ounce of water, in a case where the tumour was about the size of a bean. Slight burning pain occurred, but no inflammation. On the third day pressure on the sac caused the whole of the sac to be eliminated, after the issue of a few drops of pus from the injection-wound, which had been previously closed with a little coagalum. There was no suppuration or other change in the cyst; healing occurred by the first intention. Many other similar tumours, from the size of a bean to a pigeon's egg, were successfully treated in the same way. In the case of large cysts, it appeared advantageous to leave a few drops of the solution in the puncture-wound during the withdrawal of the canula. (*Berlin. Klin. Wochensch.* 1869.)

Subcutaneous Injection of Morphia in Infantile Convulsions.—Dr. H. C. Paiol relates two cases of convulsions in young children, in each of which the hypodermic injection of morphiæ sulph. gr. $\frac{1}{12}$ stopped the fits and produced sleep very rapidly. Unfortunately no details of the cases are given; they are said, however, to have been very severe. (*Philadelphia Med. and Surg. Reporter*, June 5.)

Postural Treatment of Prolapsed Funis.—Dr. T. L. Papin had fifteen cases of this affection in his practice at St.

Louis, which were all treated as follows:—Reduction of the funis was effected by placing the woman on her elbows and knees, the chest being depressed as much as possible, and the pelvis elevated, so as to cause the abdominal viscera, with the uterus and its contents, to gravitate as far as possible from the superior outlet. In this position, the bulk of the prolapsed portion being held in the palm of the hand, the fingers and thumb extended embracing the cord, it is by gentle manipulation between the pains gradually passed back within the womb and beyond the promontory of the sacrum, and held in that position till the fœtal head becomes engaged in the superior strait, thus preventing a recurrence of the prolapse. The woman is then gently placed on her left side and delivered in the usual manner. In ten of the cases the children were born alive. Of the remaining five, one died from compression of the cord with the forceps, after the cord had been successfully returned; in another the cord was completely severed with the same instruments; one died from the too free administration of ergot; and the remaining two were cases in which the children were in the transverse position, and no retaining of the cord was possible, death of the children occurring before the uterus could be dilated sufficiently for turning. (*Philadelphia Med. and Surg. Reporter*, June 12.)

Chorea cured by Ether-spray applied to the Spine.—M. Mazade records an interesting case in which severe chorea was effectually treated in the above manner. The patient was a young man aged eighteen; the disease had lasted many months, and after a brief interruption (during an attack of varicella) had returned with increased violence. Fifty grammes (14 drachms) of ether were applied, in spray, along the whole length of the spine with a Richardson's apparatus; the skin was slightly reddened, but not rendered anæsthetic. The next morning the patient announced that he felt much better, although the external symptoms were not very materially changed. The ether douche was administered three times more, and a remarkable improvement was then observed; the treatment was therefore continued, and at the end of about eight days the patient could *write* legibly, whereas the affection of the hands had been so severe as to entirely prevent even his feeding himself. He was so well as to be about to leave the hospital, about three weeks after the commencement of the ether treatment, when he was attacked with typhoid fever. The latter affection proved slight, and was not followed by any return of the choreic symptoms. (*Lyon Médical*, 4 Juillet.)

A New Dilatator, for Urethral Stricture.—Professor Dittel describes an instrument for forcibly dilating the urethra, which he thinks avoids the principal dangers of forced dilatation.

It is on the principle of the *screw*, but is greatly superior, he maintains, to the screw dilatator of Thompson. (*Wein. Med. Jahrb.* Juin 23.)

Amblyopia cured by Hypodermic Injection of Strychnia.—Dr. Jos. Talko, of Tiflis, reports a very interesting case of amblyopia cured entirely and solely by this method. The doses used were $\frac{1}{12}$ raised gradually to $\frac{1}{4}$ of a grain of nitrate of strychnia; the injection was made in the neighbourhood of the affected eye; it seemed to answer best when done in the supra-orbital region. The cure may be said to have occupied about seven weeks, and was then complete. It is remarkable that such large doses, repeated as often as once a week, produced neither local inconvenience nor constitutional poisoning, with the exception of the most trivial symptoms. (*Klin. Monatsblätter f. Augenheilkunde*, Mai.)

Calabar Bean in Tetanus and Trismus Neonatarum.—Dr. Monti has been trying this treatment in four cases of tetanus in new-born children, and one case of traumatic origin in a boy four years old. The traumatic case and two of the infants recovered; the remedy was mostly administered by subcutaneous injection. The author remarks on the extreme rarity of favourable results in this disease, and concludes, from his own experience and that recorded by other observers, that calabar bean offers a much better prospect of positive therapeutic results than does any other drug. The proper dose for subcutaneous injection of an infant a few days old seems to be $\frac{1}{30}$ to $\frac{1}{6}$ grain of the extract; in the boy of four years old Monti injected as much as $\frac{1}{2}$ grain, and a total of $6\frac{1}{2}$ grains of the extract were given altogether, by stomach and by skin. (*Jahrb. f. Kinderheilkunde*, Mai.)

Treatment of the Diarrhœa of Children.—Dr. Huber, of Memmingen, complains that almost all the various plans laid down by different authors are quite useless or unreliable. His own treatment, for some time past, has been partly dietetic and partly medicinal. He feeds the children on a broth made of corn-meal water and a little dripping. This being burnt in the pan, besides the formation of dextrine, certain products are formed which apparently have a direct effect in checking fermentation in the intestinal canal. It is at any rate a perfectly nourishing food, and never aggravates the diarrhœa. As medicine, Huber gives bismuth, which has been much recommended by French and Belgian authors. According to the age of the child, ʒss to ʒj daily of bismuth may be given; a dose should be given hourly till the diarrhœa abates, which often happens within a few hours. The remedy never leaves any evil after effects, and it commonly puts an end to the danger which the profuse diarrhœa had caused, within twenty-four hours. Huber disapproves of the colossal doses recommended by the French authors. He says that the treatment above described is successful also in cases where there is vomiting as well as diarrhœa. (*Deutches Arch. f. Klin. Med.* July.)

The Preparation of Medicated Pencils.—An interesting and practical paper has been written on this subject by M. Bouilhon, pharmacien. He remarks that the pencils of nitrate of silver, of tannin, and of various other substances, which are in ordinary use, are always both too hard and too brittle. The point is too hard and sharp, and cannot be applied without doing harm to some delicate tissues, such as those of the eye; and it is also so brittle that it constantly breaks to pieces just as it is being used. In view of these defects M. Bouilhon has devised the following improved mode of manufacture. He reduces the medicament, whatever it is, to impulpable powder, and mixes it with an equal weight of melted gutta-percha; the mass, while still hot, is rolled into the shape and size desired. These pencils are too elastic to break, and they can be scraped to any sort of point which may appear desirable in the particular case. It is necessary from time to time to revivify them by scraping, otherwise it may happen that the point contains so much gutta-percha, and so little of the medicament, that the crayon is practically inactive. (*Bulletin Gén. de Thérapeutique*, Juin 30.)

The Administration of Digitalis in Heart Disease.—Dr. J. Bucquoy, Professeur Agrégé of the Paris Faculty, after speaking most strongly of the value of digitalis given in repeated and small doses in cases of heart disease with irregular and tumultuous action, and with deficient arterial and excessive venous blood-pressure, insists that experience shows the view of Beau to have been correct, that for the most part the action of digitalis in calming and regulating the circulation is due to its direct *tonic* action upon the muscular walls of the heart. This idea once grasped, it is very easy to understand what are the real contra-indications of this drug. Since it acts, above all, by increasing the force of the heart's contraction, it is not to be prescribed in simple hypertrophy: here it is doubly forbidden by the energy of systole and the exaggeration of arterial pressure. For the same reason we must even more carefully abstain from its use in cases where the heart has developed sufficient compensatory power to overcome the obstacle offered to the blood-tide by a narrow valvular orifice. To add to this surplus of energy would be to dispose the heart to fatigue itself rapidly, and thus to provoke an early attack of syncope. Again, digitalis must only be employed with great care in advanced cardiac cachexy, when the persistence of albuminuria and the yellowish tint of the face give us reason to fear that the heart is permanently injured by fatty degeneration. As to the doses in which digitalis should be given, Bucquoy adheres to the position of Traube, that to give large doses is to produce toxic effects which are precisely the opposite of the therapeutic ones. Of the powder of the leaves he gives one grain and a half to three grains during the twenty-four hours: he prefers *powders*, suspended in mucilage, to pills. Of tinctures, he much prefers the alcoholic to the ethereal; it is given in doses of ten to forty drops daily: digitaline, which should only be employed with great care, should be given in granules containing ·0156 grain, from one to four of them daily. Even with all this careful choice of the form of the drug, we must be incessantly watchful of its action. As long as the arterial pressure is being maintained or increased, there will be an abundant flow of urine; the failure of this secretion, as pointed out by Jaccoud, is an important sign that the *toxic* effects have been produced, that arterial pressure has been lowered, and venous pressure increased. (*Union Méd. et Bull. Gén. de Thérap.* Juin 30.)

Preparation and Purity of Bromide of Potassium.—M. Adrian, pharmacien, has undertaken a very useful research (*Bull. Gén. de Thérapeutique,* Juillet 15) into the purity of commercial samples of bromide of potassium sold in Paris; with a view, if possible, to explain some of the inconsistencies which are obvious in the accounts given by different authors of the activity of the drug, and especially as to its liability or non-liability to produce poisonous effects. He found the French samples of bromide very varying in impurity, but all very impure. Iodide of potassium was only present in two samples out of ten; and then not in very important quantity. But all the specimens contain large quantities of chloride of potassium, and notable amounts of free or carbonated potash, and sulphate of potash, and traces of bromate of potash. The quantity of pure bromide varied from only 62 to 91 per cent. of the total weight. It is clear that many of the above impurities are peculiar to the French mode of preparing the bromide, which M. Adrian describes: but some of the impurities, and notably the presence of *bromate,* which he thinks a very dangerous one, must pertain to the process employed under the sanction of the English Pharmacopœia. It is very much to be desired, we think, that some independent analytical chemist would take the matter up, and thoroughly examine the question of the purity of the English commercial specimens of this drug, which is rapidly acquiring a popularity and an extended use which will make it hardly second to quinine, as a remedy in daily and hourly frequency of use.

Treatment of Syphilis by Hypodermic Injection of Corrosive Sublimate.—The treatment of syphilitic affections by the subcutaneous injection of mercury, suggested last year by M. Lewin, has been lately somewhat extensively practised in Germany, and in a late number of the *Contralblätt* reference is made to no less than four essays by different writers on this subject. In a report made by M. Grünfeld, the results of a series of investigations made in V. Sigmunds *Clinique* are given. The material employed for injection was a solution of corrosive sublimate of the same strength as that recommended by Lewin. Affections of the mouth occurred very rarely when due care was taken, and were never severe ; the mercury could readily be detected in the urine in one case after one-sixth of a grain had been only twice injected ; but as a proof of the slowness with which all traces of the poison are eliminated from the system it may be mentioned that it was still discoverable six weeks after the cure had been completed, and its administration had been discontinued. After employing the remedy in this mode in fifty cases Grünfeld states that he regards it as being applicable to the treatment of syphilis, and that its especial advantage is the precision with which the quantity administered can be regulated ; but he has not been able to convince himself that the rapidity and certainty of the action of the drug are materially increased when thus employed, or that it diminishes the probabilities of a relapse. The pain and the possibility of ulceration of the skin, he thinks, should be fairly weighed against the advantage above mentioned. M. Uhlemann applied the solution of the sublimate in four cases, but was obliged to give it up in two of them (the quantity injected at one time being $\frac{1}{10}$ of a grain) on account of the violent local irritation that was established, and the general symptoms that were induced, amongst others dyspnœa, sleeplessness, and noise in the ears. In the two other cases gangrene of the skin at the point injected occurred ; and he was of opinion that no improvement in the general symptoms of the disease from which the patient suffered followed. M. Stöhr publishes the results he has obtained from the subcutaneous injection of the sublimate in ninety cases. He recommends that the skin should be cautiously pricked and completely penetrated, so that the solution is not injected into the tissue of the cutis, but into the subcutaneous connective tissue ; otherwise violent pain is produced, which is often followed by gangrene.

The quantity injected should not exceed, even if it equal, the amount ordinarily administered by the stomach, since after large doses mercurial intoxication is very likely to supervene. One instance is mentioned, where the injection of $\frac{1}{4}$ of a grain quickly induced syncope. The degree of pain which follows the injection of the poison struck M. Stöhr as considerably greater than was stated to occur in the original experiments of M. Lewin; and he states, there is considerable danger of the formation of an abscess at the point injected, and sloughing of the skin. Thus, in 1,500 separate punctures, the formation of an abscess occurred nine times, and gangrene of the skin twenty-seven times. M. Stöhr recommends that, in selecting the spot to be punctured, the least sensitive parts of the skin are to be recommended, and that those parts are especially to be avoided which are pressed on either in the sitting or in the recumbent posture. He found that salivation occurs more frequently and earlier than in the other modes in which mercury is applied, and, of course, with rapidity proportionate to the quantity injected at each sitting. The patients, after the operation, were reduced as though recovering from a severe illness, and Stöhr is inclined to attribute an elevation of temperature that was observed to the action of the mercury. The primary cutaneous eruptions of syphilis are usually accompanied by slight elevation of temperature, but it never attains so high a degree as he observed after the application of the solution of the sublimate. All M. Stöhr's cases were those who had been recently infected with syphilis, and in whom no other treatment had been commenced. The ordinary amount injected on each occasion was $\frac{1}{8}$ of a grain, as he found larger doses not only dangerous but useless, unless to combat some serious affection, as iritis. On the other hand, he found the administration of very small quantities to have no effect. The largest quantity injected at successive sittings to one and the same patient amounted to $4\frac{3}{4}$ grains; the smallest to $2\frac{1}{8}$; and the mean amount was 3 grains. Relapses were observed to be as frequent as under other modes of treatment. M. Stöhr regards it as an inappropriate mode of treatment for out-patients.

It was most effectual in its operation in cases of squamous, pustular, and ulcerated syphilides, especially in those forms in which the mode of treatment by inunction was inapplicable. It appeared of little value in those in which there were neoplastic formations of connective tissue, as in gummata, nodes, &c. The action of mercury is somewhat more rapid when applied in this than in other modes, the mean period occupied in the cure being twenty-three days, whilst where inunction was practised it was twenty-five days, and where the bichloride was administered internally twenty-seven days. We may just add that in the *Gazette des Hôpitaux* M. Mores recommends a slightly different mode of subcutaneously injecting mercury employed by Scarenzio in cases of constitutional syphilis. This surgeon suspends from one-tenth to four-tenths of a grain of calomel in mucilage, and injects it beneath the skin. Its introduction is followed by the formation of an abscess, and as this heals up the symptoms of syphilis disappear. It is rare that a second injection is required. Of twenty cases the mouth was affected in one instance. A. Martin has endeavoured to avoid the production of abscess by injecting iodide of mercury in solution in iodide of potassium, and states that in eight cases in which he has tried it the constitutional symptoms of syphilis have disappeared without the occurrence of any local irritation. It would seem, therefore, that whilst the evils attendant on the subcutaneous injection of solution of corrosive sublimate are sufficiently great to render it doubtful whether it will be much practised in this country, it is quite possible that modes of combination may be discovered which will enable it to work with less violent local irritation, whilst the great advantage remains that the quantity introduced into the system may be more accurately determined than when administered by the stomach, and the total quantity employed be at the same time much less.

Sleeplessness of Young Children.—M. Moutard Martin states what we are sure will, if true, be hailed with delight by parents and nurses—viz. that, after warm baths and various other means have failed, the sleeplessness of young children can be overcome by means of bromide of potassium, which they bear well in doses of moderate strength. He has found it particularly useful during the period of dentition, when they are restless, excited, wakeful, and cough. The drug should not be employed, however, if diarrhœa be present.

New Tonic.—M. Blanchard in a recent number of *Comptes Rendus* describes at length the characters and properties of a new remedy, allied to cascarilla, to which the name of conden or coni-xan has been given. The cortex of the root is the part employed. Of this an infusion is made; about one ounce being used for each dose. It is especially applicable to cases of dyspepsia and dysentery, and it is particularly valuable when administered in combination with quinine, since it obviates the injurious influence of the latter on the intestines.

[We regret to say that most interesting notes from Dr. Spencer, of Oxford (on Iodide of Potassium in Itch), and Professor Mackay (on Strychnia in Cutaneous Hyperæsthesia), have been lost, by the negligence of the Post Office authorities, along with a large quantity of other MS. This misfortune also accounts for a delay of a day or two in the publication of the *Practitioner* for this month.—Ed. Practitioner.]

Notes and Queries.[1]

A New Constant Battery.—Messrs. Weiss have directed our attention to a new form of galvanic battery, by which it is hoped to obtain all the special effects of the constant current from a large number of cells, while the apparatus itself will be portable. The battery is a modified Smee's (the elements being of zinc and platinised silver). There are 50 cells, and the box in which the battery is enclosed is about 20 inches long by 8 wide and 6 deep. The zinc and silver plates are in each couple firmly soldered together, and the whole number of pairs are let firmly into a frame of vulcanite, by means of which they can be lifted out of the dilute sulphuric acid which excites the current. It is proposed to make the box twice as deep, in which case it will be possible to carry the battery, shut, from place to place. The plates, dry, will then be stored in one compartment, and the cells, ready charged with acid, will be contained in the other, which will be fitted with an air-tight, indiarubber-lined lid. We have tested the action of this battery upon ourselves, and can say that so far as sensations go, it resembles very closely the effects of the Daniell's constant battery. It remains to be known whether this battery will produce the most specially characteristic effects of the constant current, viz. the excitation of wasted muscles (as, *e.g.*, in infantile paralysis) which are in the stage of insensibility to the interrupted current. We hope shortly to have the opportunity of trying this experiment; meantime it seems likely enough to succeed. It is a point in favour of the new battery, that Benedikt (as those who have read his interesting and valuable work on *Elektrotherapie*, which we reviewed in July 1868, will remember) employs a Smee's battery in private practice, where he must have a portable apparatus. Benedikt employs 18 Smee's cells, of larger size than those in Weiss's battery, and he varies the intensity of the current by a screw-arrangement, whereby the plates can be immersed more or less deeply in the dilute sulphuric acid, which excites them without opening the box in which the battery is enclosed. There is an advantage in favour of Benedikt's battery in the greater size of its plates. But, on the other hand, the mode of varying the intensity of the current is much superior in Weiss's. However, it is impossible yet to decide on the actual value of the new battery. It remains yet to be seen whether electricity in sufficient quantity can be obtained from it, without involving inconvenient tension-conditions. Above all, it remains to try the test of its action on wasted muscles, and, we may add, of its power to allay neuralgic pain, which is a very conspicuous virtue of the constant current when obtained from a thoroughly efficient apparatus. We wish that the most favourable results may be actually obtained, for there can be no doubt that a really serviceable constant battery, which should be portable, would be an immense boon to the profession. Hitherto it has been impossible to get sufficient constancy with practical portability, and no doubt the common Smee's batteries are very inconstant. But we think there is good ground for hoping that in the new battery these defects may be remedied.

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[1] The Editor, being desirous of making this department a useful medium of communication between practitioners, will be glad to receive short notes on theoretical or practical points in therapeutics,—brief jottings on those numerous queries which suggest themselves from time to time to a medical man as he "goes his rounds," but which he has neither the time nor, in some cases, the opportunity of answering. The Editor does not pledge himself to reply to every question addressed to him, but he hopes to make the "department" the means of supplying the information required; and this he can only effect by the hearty assistance of his readers.

Dr. Richard Gumbleton Daunt, of Campinas, Province of St. Paul, Brazil, sends us the following interesting and important note :—"I saw in the October number of the *Practitioner* the statement of a case of tetanus cured by the bromide of potassium, but the case is not given, nor is the treatment recommended with the emphasis necessary to fix the attention of the profession so strongly as is desirable. I ought, therefore, to speak on the subject, and declare that, since the year 1864, I have employed the bromide of potassium in tetanus, and since then, in fourteen cases, I count twelve perfect cures. The fatal cases being so violent, and the predominance of disturbance in the functions of the respiratory nerves such that the incurable character of the cases, and their rapidly fatal termination, was intuitively perceived at the first glance. I have not exceeded ʒij of the bromide in twenty-four hours, nor has it been the exclusive medication. On the contrary, I employ a very varied treatment as to individual drugs, rarely, however—and only towards the close, and in presence of especial indications—using opium. I generally commence with full doses of aconitine, after a purgative dose of essential oil of turpentine, and on the second day generally commence the use of the bromide. I employ freely sulphate of quinine when there are sweats, or where there are obvious and marked periodical evacuations, and I also freely use wine. In former years I was very successful with belladonna as the principal remedy, this drug occupying the place now accorded to the bromide. I employ cupping or leeches to the spinal column in certain cases, and have observed much relief from the application. I use entire warm baths whenever a sufficiently large vessel is obtainable, giving two daily, and retaining the patient for one hour in the bath, whose temperature is preserved by the repeated addition of hot water. Before recurring to the bromide I treated successfully a desperate case with large doses of sulphur after the turpentine purge, and I know of not a few successful cures by large doses of sulphur in the hands of the unlettered people. I also treated successfully some cases with sulphuric ether, and know several Brazilian physicians who consider the internal use of ether to be the best treatment. As an external application to the spine I use an extract of tobacco; and I can positively affirm that the internal use of tobacco is an old popular treatment in the Province of Minos Jerves and in this Province of San Paulo, which numerous cures have accredited so much, that there are districts where the people prefer to give a tetanic patient in charge to a person acquainted with the popular tobacco cure, to entrusting him to regular professional treatment. I always, as a rule, recommend a generous diet when the degree of action of the maxillæ permit this, and where they do not, then nutritious enemata. Since I commenced to use the bromide I have felt myself master of the disease to such a degree as previously seemed unattainable. I shall look with curious impatience for the confirmation or condemnation of these results by the trials which it is reasonable to suppose will follow in Europe the publication of these remarks. I do not know if the board-like tension of the abdominal muscles is considered in Europe the most rigorously true pathognomonic sign of tetanus. I consider it so. I observe it often before the invasion of convulsions, and it is the last symptom to disappear. The turpentine I repeat during the course of the disease, according to the state of the intestinal canal. Alcohol in clysters, with a full dose of camphor dissolved in it, is also a popular and apparently useful remedy here. Quitting now tetanus, I fill the paper by saying that I endorse with the assurance of long and frequent use all I have seen in the *Practitioner* as to the virtues of muriate of ammonia. In sciatica it is invaluable with turpentine. There is no remedy equal to it for cleaning a furred tongue in non-feverish states. As a means of sustaining the digestive powers in old age it is unrivalled; also as a corrective of the intestinal mucous membrane of young children. Iterum, as a pulmonary tonic after bronchial affections. In adults I give 36 to 72 grains in the nyctemera, generally 48 grains in 12-grain doses. To children, 12 to 20 grains in 3 to 5-grain doses, according to age."

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Die hydriatische Behandlung der Diarrhöe im Kindesalter, auf Grund. d. physiol. Wasserwirkungen u. prakt. Erfahrungen. Wien: Seidel.

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[1] Any of the foreign works may be procured by application to Messrs. Dulau, of Soho Square, W.C.; or Williams & Norgate, of Henrietta Street, Covent Garden, W.C.

THE PRACTITIONER.

SEPTEMBER, 1869.

Original Communications.

ON THE INFLUENCE OF ALCOHOL UPON THE TEMPERATURE OF THE BODY.

BY C. BINZ,

Professor in the University of Bonn.

At the instance of the Editor of this Journal, I beg to present to English readers a few of the results which have been obtained at my instigation by some of the students who are working in my pharmacological laboratory.[1] Considering how extensively alcohol is employed in England for the treatment of serious forms of disease, I think I may venture to say that every experimental research bearing upon the questions of its nature and mode of operation will prove of interest. So far as I know, Lichtenfels and Fröhlich were the first who (in 1852) published any scientific investigations on that part of the alcohol question which bore special reference to the operation of small non-poisonous doses on the animal economy,[2] and the results they obtained were briefly as follow :—

1. The temperature in the mouth was 37°·0 Centigrade. About 24 ounces of beer, containing between 3 and 4 per cent. of alcohol,

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[1] C. Bouvier, Untersuchungen über den Einfluss des Alkohols auf der Körperwärme (Researches on the Influence of Alcohol on the Temperature of the Body) : Pflüger's Archiv für Physiologie, 1869, August Heft.

[2] Denkschriften der Mathemat. Naturwissen Klasse d. K. K. Akad. zu Wien, 1852, iii. p. 133.

were then drunk: in fifteen minutes the temperature had fallen to 36°·5, and remained so for sixty and even for one hundred minutes.

2. The normal temperature was 36°·9 Cent.; a flagon of wine containing about 8 ounces was drunk, and after forty minutes the temperature had fallen to 36°·6.

3. Four ounces of water containing 8 per cent. of alcohol, warmed to 36°·8 Cent., were quickly ingested. The thermometer stood previously at 36°·9; after five minutes at 37°·1; after twenty-five minutes at 37°·0; after forty-five minutes at 36°·9.

4. Two ounces of water, containing 17 per cent. of alcohol, were drunk whilst lukewarm. In two minutes the thermometer rose from 36°·6 to 36°·9. In thirty minutes it stood at 36°·7; in forty-five minutes at 36°·6. We may easily convince ourselves then that, as the Viennese authors maintain, the primary augmentation of temperature is occasioned by the stimulating action of the alcohol on the blood-vessels of the mouth. More recently Tscheschechin,[1] of Russia, has published the results of some researches which he has made on rabbits. He mixed 10 C.cm. of alcohol of 80 per cent. strength with a little water, and injected the fluid into the stomach. He found that in twenty minutes the temperature sank from 39°·2 to 37°·2. Both the respiration and the pulse became quicker, and the vessels of the head were strongly injected. After the lapse of rather more than an hour the thermometer showed a temperature of 35°·7. The animal was insensible, but recovered in a few hours. Very similar results were obtained by Möller of Königsburg.[2] Both authors state that when large doses of alcohol are administered to warm-blooded animals, their temperature becomes reduced; and Möller adduces the well-known fact that a drunken man soon freezes to death when exposed to severe cold.[3]

All the observations detailed in the following pages were made with the Centigrade thermometer (Celsius'), the one now very generally employed both in medical practice and by the scientific world generally, and which, it may be added, like the decimal system, may be regarded as the most rational and intelligible instrument. In all about forty-nine experiments were made. The first series were undertaken with the view of determining the effect of very small quantities of alcohol upon the temperature of the body. We started with the conviction that the stimulating influence of the alcohol was as indubitable on the vital properties of the juices, as on the nervous system. But the results of our experiments were not in accordance with this view. I append only one of this series of experiments, since all the others gave identical or very similar results.

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[1] Zur Lehre von der Thierischen Wärme (On Animal Heat). Reichert und Dubois-Reymond's Archiv, 1866, p. 161.

[2] Ueber den Alkohol (On Alcohol). Berlin, 1867. A. Charisius.

[3] Loc. cit. p. 24.

Experiment.—Strong terrier, about two years old, deprived of food for ten hours previously.

A.M.	Temp.	Pulse.
10.40	38°·7′	114
10.50	38 ·7	110
10.55	38 ·6	110

Two cubic centimetres of alcohol 86° per cent., diluted with a little water, were subcutaneously injected.

A.M.	Temp.	Pulse.
11.10	38°·5′	112
11.30	38 ·1	118
12.0	38 ·2	116
2.30 P.M.	38 ·5	—

After a few days had elapsed, the same dog had one C.cm. of the same alcohol, diluted with water, injected subcutaneously. The temperature quickly sank about 0°·4 cent., but after the lapse of two hours was again normal.

Experiments on man, made with small quantities of alcohol, led to very similar results. Half a glass of light hock, or a small glass of cognac, caused a fall of from 0°·4 to 0°·6 in a very short time.

The second series of experiments were instituted, to determine the effects of large doses of alcohol.

Experiment.—A strong poodle, about four years old.

A.M.	Temp.	Pulse.
11.15	38°·4′	89
11.30	38 ·3	92
11.45	38 ·3	90

In the course of half an hour from this time, 25 C.cm. of alcohol, mingled with water, were introduced into the stomach. The animal made attempts to vomit, but was prevented by exerting pressure on the œsophagus.

In the course of six minutes, it fell over on its side in a state of intoxication.

P.M.	Temp.	Pulse.
12.30	37°·5′	108
1.0	37 ·1	112
2.0	36 ·7	118
3.0	36 ·5	117
4.0	35 ·8	112
5.0	35 ·8	113

The dog was then apparently lively, but walked with a very irregular gait, and occasionally vomited some tough mucus, having a strong odour of alcohol.

Experiments were now made to ascertain the effects of poisonous doses; and it was found that both in dogs and rabbits a constant fall in temperature occurred, amounting to between 4° and 5° in from one to two hours, at which period death took place.

In the third series of researches, dogs, cats, and rabbits were treated by the injection of pus, or of the juice of putrefying fodder, and having been thus thrown into a state of fever, were treated with alcohol.

Experiment.—Into a large shepherd's dog of mongrel breed, 3 C.cm. of pus from an inflammatory abscess were injected beneath the skin of the back.

P.M.	Temp.	Pulse.
3	38°·9′	114
3.30—Injection of the pus.		
4	39 ·4	126
4.30	40 ·1	120
5	40 ·6	127
6	40 ·5	122

At this time 5 C.cm. of alcohol of 86 per cent., diluted with water, were injected into the stomach.

P.M.	Temp.	Pulse
6.30	40°·0	130
7	39 ·6	126
7.30	39 ·2	120
8	39 ·0	122
8.30	39 ·3	126

As violent vomiting now supervened, 4 C.cm. of alcohol, diluted with 6 C.cm. of water, were injected subcutaneously.

P.M.	Temp.	Pulse.
9	39°·0	132
9.30	38 ·8	128
10	38 ·8	131
A.M. 9 next day	39·0	141

The injection of 5 C.cm. of alcohol, with an equal quantity of water, was now practised subcutaneously.

A.M.	Temp.	Pulse.
9·30	39°·1	136
10	38 ·7	133

No more alcohol was administered after this, and the febrile symptoms were now observed to rise rapidly in intensity, and the animal soon died. Throughout the whole experiment, no trace of intoxication was exhibited by the animal. After the alcohol had been given, it sat quietly in the corner, whimpered slightly, and had its eyes constantly open.

A final series of experiments were occupied with endeavours to solve various questions, and first, in what way alcohol operated when taken coincidentally with full diet. It was found, in regard to this point, that the so-called fever of digestion,—that is, the exaltation of temperature after meal times,—was comparatively slight. This was in accordance with the observation of Vierordt,[1] that after food the amount of carbonic acid exhaled is considerably increased, but when alcohol was taken with the food the quantity of that gas eliminated was less. Just so, here it appeared, that the augmentation in the temperature of the blood, resulting from a full meal, either did not occur at all, or only to a very slight degree, when alcohol was taken.

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[1] Wagner's Handwörterbuch der Physiologie, B. ii. p. 884.

In all these cases the temperature of the rectum was alone taken. An experiment made on a man in whom the temperature of the mouth and anus were coincidently taken by the introduction of a thermometer into each, showed that there was no difference between them, and that consequently the place where the temperature was taken was a matter of no importance. The same result was obtained in the case of a rabbit in which one thermometer was introduced *in ano*, and another beneath the skin of the back.

As a consequence of these investigations, the alcohol question may assume a somewhat different aspect. The introduction of the thermometer into medical practice, to which only the unscientific will object, has taught us that high temperature in the febrile state constitutes one of the most dangerous symptoms in various diseases. Alcohol is thus frequently called upon to act as a preservative of life by its antipyretic properties. It removes the conditions which induce paralysis of the brain and heart; and it should be employed in those cases especially where the thermometer shows that too high a temperature is present. In this respect it approximates to quinine in its action, but at the same time possesses in addition its well-known stimulating action on the central nervous system and upon the heart. It is self-evident that its value in this respect is not in any way impaired by its antipyretic properties. In most cases, however, it will be found that the depression of the powers of the system is directly dependent upon the temperature of the blood, and passes off when it falls.

Two circumstances are opposed to the extensive employment of alcohol in acute disease: first, its effect upon the pulse; and secondly, its influence on the tone and diameter of the vessels.

In all our experiments, the number, and it appeared also the strength, of the contractions of the heart rose. Whenever, therefore, such an effect is from any cause to be feared, alcohol is obviously an improper remedy to be employed.

According to Waller[1] and the remarkable researches of Cohnheim,[2] pus originates in the passage of the moderately enlarged white cells through the relaxed walls of the dilated blood-vessels. I have convinced myself by direct observation of the perfect accuracy of the statements of Cohnheim, though they are still contested by some investigators, and have elsewhere, though undoubtedly with another object in view, furnished a sketch of my own.[1] Alcohol induces dilatation of the capillaries of various regions of the body, but especially of those of the head, with great precision and certainty. And perhaps it may even be said that it causes dilatation of the capillaries throughout the body. If now there be already present a strong tendency to the formation of pus, it may be materially favoured by the administration of alcohol. We may, perhaps, be allowed to attribute the injurious effects which now and again have been observed to follow the employment of alcohol to these actions. Alcohol holds a secondary position as an antipyretic as compared with quinine, because the latter does not possess these disadvantages.[2]

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[1] Philosoph. Mag. vol. xxix.

[2] Ueber Entzündung und Eiterung (On Inflammation and Suppuration). Virchow's Archiv, Bd. xl. pp. 1—80.

It remains for us still to consider to what causes we are to attribute the refrigerating influence of alcohol, and there appear to be three possibilities:—that it may operate upon the nervous system; that it may act on the means which the system possesses of regulating its temperature by the perspiration; or, lastly, that it may exert its influence directly on the oxidizing processes which take place in the juices. After all that has been said upon the subject, it is the last action which seems to be by far the most probable.[3]

Further and more extended series of experiments, which have already been commenced, will, we hope, enable this question to be decided.

The foregoing part of these researches was already concluded when I was made acquainted, by a personal interview with the Editor of this Journal, with the researches of Ringer and Rickards, who had had the same object in view as myself, and who had also arrived at the same results upon the effect of alcohol in fever patients. (Todd, so far as I know, had only estimated the temperature by means of the hand, which is a very unreliable method.) The observations of these experimentalists had escaped my notice, because at the time when they appeared I was with the army in Bohemia.[1] Moreover it is singular that our more important journals do not contain any notice of them. I understand, however, that the industrious English authors have not referred to the earlier German investigations. In fact all our scientific views on this point have been preceded by the convictions held by soldiers, sailors, hunters, and especially those who work with fire in smelting-works and elsewhere, who have long maintained that the use of brandy cools down the temperature of the body. The differences in degree of the results obtained by the London observers and the continental observers at Bonn, must, I think, be attributed to this, that the former took the temperature of the axilla exclusively, whilst the latter determined that of the rectum alone. On this account, perhaps, our experiments may be admitted to have a greater degree of accuracy. The sphincter ani embraces the thermometer in an hermetical manner, whilst, as every practitioner knows, a constant and persistent compression of the axilla is difficult to be attained. It may be provisionally noted that the authors above mentioned appear to have over-estimated the influence of the respiration upon the temperature. Liebermeister[2] has shown that increase in the frequency of the respiratory movements, whether accompanied by normal or by increased depth, exerts no remarkable influence on the temperature of the body. The cooling of the blood, through the respiratory process, to any considerable extent is thus probably only a theoretical conclusion, just as the supposed heating of the blood by alcohol was up to a very recent period. In the medical world of Germany, even now, alcohol in small doses is held to be not only a general stimulus for the nervous system, which it undoubtedly is, but also for the combustive operations. It is said that it contains a large proportion of hydrogen, which is burnt off in the body, and must on physical grounds augment its temperature.[1] This is true enough on theoretical grounds, but it has been overlooked that the influence which checks other oxidation processes is more powerful than the effect of its own oxidation.

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[1] Experimentelle Untersuchungen über das Wesen der Chininwirkung (Experimental Inquiry into the Mode of Operation of Quinine). Berlin: A. Hirschwald, 1868.

[2] Pharmacologische Studien über Chinin. Virchow's Archiv, 1869, Bd. xlvi. p. 139.

[3] Cf. G. Harley on the Influence of Physical and Chemical Agents upon the Blood and the Respiratory Gases: Philosophical Trans. 1865, ii. p. 717.

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[1] *Lancet*, August 25, 1866, p. 208.

[2] Physiolog. Untersuchungen über die Quantitativ Veränderungen der Wärmeproduction (Physiological Researches on the Quantitative Variations in the Production of Heat). Reichert und Dubois-Reymond's Archiv, 1862, pp. 661—683.

What views are at present held upon this point in other countries, I am not very accurately acquainted with. Lallemand, Perrin, and Duroy[2] have, indeed, with very large doses, seen a notable augmentation of temperature, but this has been seen by no one else, not even by their countrymen Dumeril and Demarquay,[3]—viz. from 37°·0 to 38°·5, and then again 36°·5; from 36°·5 to 37°·0, 38°·5, 35°·5, &c. &c. I am unable to offer any explanation of this extraordinary exaltation. Herr Bouvier and myself have not observed it once in forty-nine cases, the opposite condition constantly occurring. The Parisian authors refer only to three experiments directed to the determination of this point. The difference in the number of experiments is therefore in our favour, whilst the construction of thermometers has made important advances since 1860. We may, therefore, be permitted to doubt whether in any instance these observers really observed an exaltation of temperature result from the employment of alcohol.

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[1] C. O. Weber. Die Gewebs-erkrankungen (The Diseases of the Tissues). Erlangen, 1865. Pitha und Billroth, p. 628.

[2] Du Rôle de l'Alcoöl et des Anæsthétiques dans l'Organisme (On the Rôle of Anæsthetics in the Organism). Paris, 1860. P. 47.

[3] Loc. cit. p. 11.

ON THE TREATMENT OF TRAUMATIC TETANUS WITH THE CALABAR BEAN.

BY EBEN WATSON, M.D.

Professor of Physiology in Anderson's University, and Surgeon to the Royal Infirmary, Glasgow.

SINCE my last publication on the Calabar bean in tetanus,[1] it has been my lot to superintend the treatment of no fewer than six cases of the disease, and in this communication I intend to state these cases as briefly as possible, and then to offer a few remarks on the employment of the bean, and on the amount of success which is to be expected therefrom.

CASE I.—D. D——, aged 28, was admitted to the Royal Infirmary on 16th November, 1868. He stated that ten days before admission he fell in the street and hurt his nose and forehead. The nose was still considerably inclined to the right side, as if its bones had been fractured. The skin of the nose was ruffled in the fall, and this part was now covered with a scab. Patient also stated that from the very time of the injury he began to feel stiffness and pain in the muscles of his neck and lower jaw, but he said he had now no pain, except very slightly in the back of his head. The stiffness of the lower jaw was, however, quite decided, for he could not separate the teeth more than a quarter of an inch, and the sardonic expression was marked. The muscles of the back of the neck were also rigid, but there had not as yet been any general convulsions.

At 8 P.M. on the evening of admission, treatment with the physostigma was commenced. It was given in the form of a tincture, every ♏v of which contained $\frac{1}{12}$th part of a grain of the extract. This dose was repeated every half-hour for the first three hours, during which time he had two fits of general convulsions, but in the intervals felt quiet and easy and perspired freely. The doses were then doubled, and the fits became gentler and fewer during the night. But in the early part of the morning the bean was given with less regularity, and therefore I found him rather more rigid again at my visit (8.30 A.M.).

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[1] *Glasgow Medical Journal*, November 1868.

November 17.—The doses were increased rapidly, and the bowels were acted on with croton oil. ♏xxv of the tincture were given every half-hour during this morning, and by 2 P.M. he was much more relaxed and could take some beef-tea without inducing the spasms. He still, however, had a violent general convulsion about every three or four hours.

November 18.—This morning his teeth were again found tightly clenched, and the muscles of the abdomen were quite hard, yet the patient declared himself better, and could swallow more easily. He had no pain. The tincture (♏xxv) was continued every half-hour during the day, and he had no severe convulsions. During the night the doses were given only every hour to admit of a little sleep, and with each dose of the bean whisky or beef-tea was administered.

November 19.—Patient was evidently worse; more generally rigid and frequently convulsed. The doses of the bean were increased to ♏xxxv, and given every hour this forenoon, but the convulsions were so severe that inhalation of chloroform was resorted to on two occasions; but in one of the fits, before the chloroform acted, he died at 11.30 A.M. The chest was so rigid, and the respiration was so completely arrested, that the chloroform was really not inhaled,—a striking illustration of its inefficacy during a severe tetanic convulsion.

CASE II.—M. D——, aged 25, a night carter, was admitted into the Royal Infirmary on the 14th December, 1868.

On the morning of admission, patient's cart-wheel passed over his right ankle. Both bones were fractured with considerable bruising of the soft parts, in consequence of which large bullæ rose on the skin, and a small portion of it sloughed. Carbolized water-dressings were used, and the patient did well till the 21st December, when he complained that he could not open his mouth. On examination it was found that his teeth were already clenched and his back stiff and slightly arched. His expression was sardonic, and he had very decided convulsive starts. He confessed that these symptoms had been coming on during the previous night, but that he had not thought them worth mentioning.

One grain of the extract of the bean dissolved in whisky and water was at once given by the mouth. An hour afterwards another grain was similarly given, and after waiting one hour more, and finding no effect produced, two grains were given for the third dose. Still no relaxation ensued, and in half an hour a fourth grain was administered, and half an hour afterwards three grains at a dose were given—in all 8 grains of the extract within four hours. The muscles of the lower jaw now seemed slightly relaxed, but doses of one grain of the extract were continued during the afternoon. It was, however, apparent that the usual effects of the drug were not being produced, and I therefore changed the method of administration for that of subcutaneous injection with Wood's syringe. I injected $\frac{1}{6}$ gr. of the extract in watery solution under the skin on each side of the neck, and shortly afterwards I repeated the injection in the loins. The muscles in the parts named seemed by and by to be slightly relaxed, but no great general effect was produced. After two hours' interval the injections were repeated. The patient was then very rigid and had frequent fits of opisthotonos, but a curious change occurred in the state of the muscles of the face and neck. The former seemed to relax to some extent, and the latter to remain contracted; so that the teeth, instead of being tetanically clenched, were pretty widely separated, and kept so by tetanic contraction of the depressors of the jaw. When, however, the convulsive fits were severe, the teeth again were clenched, but the lips were spasmodically separated, so as to give the face a very strange expression. One grain of the extract was given every two hours during the night, and the bowels were well opened. Pulse 80, soft and full, but during the spasms it rose to above 120.

December 22.—This morning patient seemed much in the same state, but weaker. Breathing more difficult and unsatisfactory, from the continued rigidity of the chest. Pulse 130 to 140. Patient had not slept, and had taken little nourishment during the night. At 9 A.M. $\frac{1}{3}$ grain of the extract in solution was injected under the skin of the neck, and the spasms were less severe, though rather more frequent. At 9.30 four grains of the extract in water were injected into the rectum, and two hours afterwards subcutaneous injections were practised, both in the neck and loins. Notwithstanding all this, the spasmodic fits continued unabated, and the patient was fast becoming weaker. Enemata of beef-tea with brandy were given, but were expelled with the contents of the bowel. The patient seemed in a stupor; his face was livid, and covered with sweat. The pupils were contracted, but the mouth was wide open. The twitchings continued, but in a short time two violent fits of opisthotonos, rapidly succeeding each other, closed the scene at 1.20 P.M. The man died of pure asphyxia, with his chest quite fixed.

These two cases were both extremely acute as well as severe. In the first case, the patient thought he felt stiffness in his neck from the very time of the accident, but this could not have been tetanic stiffness, which I believe only commenced the day before his admission to the hospital, therefore he died on the fourth day of the disease. In the second case, the man died on the third day of the disease.

Both cases were remarkable for the slightness of the external wound, but both had simple fractures, and in both cases the long continuance of rigidity of the respiratory muscles was very noteworthy.

As to the action of the bean, I attempted in the first case to mitigate rather than to check the disease, and if possible to bring it into a chronic state. I therefore used, especially at first, rather small doses of the extract, though I had soon to increase them to get any effect. In the second case, I altered my tactics, and tried to give the disease a check before the patient's strength became exhausted. I also practised subcutaneous injections in this case, but whether from the weakness of the drug or the severity of the disease no good or sufficiently prolonged effect was ever produced, and the patient died with his chest fixed, as if it had been held in the grasp of a giant.

Greatly dissatisfied and disappointed with these results, contrasting strongly as they did with my former experience of the drug, I set to work once more with experiments on rabbits, and found that really the bean and its preparations were less potent than I had formerly found them. Thus one rabbit took 7½ grains of the extract in repeated doses, all administered within an hour, before it showed the slightest signs of paralysis. Another rabbit took ♏xxxv of the tincture prepared by percolation through the powdered bean before it gave any evidence of the action of the drug.

Nevertheless a small drop of either of these preparations, when applied to the conjunctiva of the human eye, produced great contraction of the pupil.

I then obtained supplies of the bean, not only from various druggists but from private parties, especially from my friend Mr. Thomson, lately a missionary at Calabar, and now practising medicine in Liverpool. These specimens appeared to be much the same in their outward characters, and to vary but little from each other in potency. In answer to my inquiries Mr. Thomson informed me that—

1. The natives speak of some kinds of bean as being more powerful than others. "The little dark-coloured much-twisted samples" are the most virulent. Roasted or boiled beans are said to be innocuous, but Mr. Thomson is not aware that there are two species of plants yielding beans so similar as to be mistakable for each other.

2. The plant is to be found elsewhere than at Calabar—as, *e.g.* at Sierra Leone—"or," he adds, "at all events a plant furnishing beans *very like the Calabar species.*"

3. The beans in Calabar are collected by young ignorant persons, on the banks of rivers down whose streams they have floated. They are probably all ripe, or they would not have fallen from the pods, and they are most abundantly found in October, November, and December.

I may add that there is, so far as I can ascertain, no regular supply of these beans as yet established, and it is very possible that several kinds of them are at present mixed together by druggists in order to have enough for the preparation of extracts and tinctures to supply the demand of the market. I can prove that some of the extracts at present sold are different from others. Thus some are entirely soluble in spirit, and others are not; and, what is much more important, some are exceedingly weak in their physiological effects compared with the early and more carefully prepared specimens. This I have proved by experiments on rabbits and others of the lower animals, and I am quite persuaded that the same thing has been sadly shown in my recent experience of the treatment of tetanus in the human subject. For I was in this state of uncertainty and suspicion as to the genuineness of the drug and the strength of its preparations when I was called on in rapid succession to treat the following cases. It will, however, be observed that in them I employed the drug more freely,—using subcutaneous injections whenever there was any difficulty of swallowing, and sometimes employing the crude powder of the bean when it could be swallowed by the patient.

Case III.—W. S——, aged 14, was admitted into the Royal Infirmary on 16th January, 1869.

On Thursday the 7th instant, patient, while assisting in a slaughter-house, was wounded in left leg by the horn of an ox. The wound was dressed and the boy remained well till two days before admission, when he complained of stiffness of the jaw. Dr. Dunlop saw him, and recommended him to my care in the Infirmary.

January 16.—When admitted he had all the symptoms of tetanus, his teeth quite firmly clenched, his chest, belly, and back very rigid, but the limbs free. Pupils rather dilated; pulse 110; bowels confined. He had a drop of croton oil in castor oil, and began the Calabar bean at 8 P.M., taking gr. j of extract every half-hour for three times, and then gr. j every hour for the next twelve. At 4 A.M. he had a violent fit of general spasms producing opisthotonos.

January 17.—At 10 A.M. his expression was improved, and his muscles were considerably more relaxed than they had been; pulse 88. Patient had vomited a good deal of frothy mucus. He had taken no food except a little milk occasionally. The Calabar bean was continued, and as the bowels had not moved another drop of croton oil was given. At 10 P.M. he was still better, being even more relaxed in his muscles, and the bowels had been freely moved. Has not slept much, and has vomited frequently. Pulse 108, full and soft; gr. j of extract to be given every two hours, and stimulants to be freely given during night. Tincture of cannabis indica to be given with the bean in ♏xxx doses every four hours, unless patient slept. At 11 P.M. patient was found much relaxed and asleep ; mouth could be opened about an inch, but shortly after this time he had a severe fit of general spasms, and became very weak. As he could not swallow, brandy in beef-tea was injected into the rectum, and repeated as the patient could bear it, and in one of the injections gr. iij of the extract was administered. Notwithstanding this, at 3 A.M. he had a most violent spasm, and the teeth remained firmly clenched. He swallowed gr. j of the extract in a little whisky and water, but in a quarter of an hour he had another violent fit of spasms, and the muscles of the neck and back remained quite hard. Patient could not swallow, but gr. ij of extract were administered by injection. In about half an hour the mouth could be opened more than an inch, and the muscles generally were quite soft.

January 18.—The above-mentioned relaxation continued with only a few twitches ; no bean had been given, but stimulants and food as they could be taken ; bowels had been twice moved. At 1 P.M. slight occasional spasms occurred, and therefore gr. j of the extract was given *per anum*, and at 2 P.M. patient drank about half a pint of beef-tea, and continued relaxed. At 4.30 P.M. a very violent spasm occurred, and chloroform was tried ineffectually, and, as breathing was long delayed, artificial respiration was attempted with success. Patient remained afterwards more relaxed, though still in parts rigid. At 6 P.M. tincture of cannabis indica and spirit of sal-volatile (♏xx of each) were given in water, and in an hour and a half afterwards gr. j of the extract by the mouth. This was followed by relaxation of the rigid muscles, which continued and was kept up by injections of gr. j of the extract in beef-tea into the rectum until 9 P.M., when during the administration of some brandy and water he seemed to choke and gasp. He then fell into a general fit of spasms, which was never wholly recovered from till he died at 2 A.M.

Although this was from the first a very acute and severe case, yet the influence of the bean was quite marked, and the progress of the case was favourable until a few hours before death. It seems very likely that the brandy and water had irritated the glottis, and thus caused the spasms, which in the state of weakness produced partly by the disease, and no doubt partly by the drug, he was unable to bear. The case teaches two lessons: one, the importance of very skilful and careful nursing in this disease; the other its deceitfulness, and the great uncertainty of the patient's prospects, even when these seem most promising. This is especially true until the disease has passed its acute stage.

CASE IV.—R. S——, aged 12, was admitted to the Royal Infirmary on the 2d April, 1869, with a burn from molten iron on the hips, thighs, and feet.

On the 14th symptoms of tetanus showed themselves, and therefore, the bowels being loose at the time, the tincture of the bean was immediately commenced. He had ♏xxx every hour during the day, and three times he had as much of the solution of muriate of morphia along with it.

April 15.—He was rather better this morning, and the same treatment was continued; soup and whisky and water were given when he could take them.

April 16.—Complained of pain in back and neck, and the muscles were hard there. The same treatment was continued, and about midnight he was asleep and relaxed all over. The doses of the bean were only given every three hours to allow patient to sleep.

April 17.—Seems more relaxed, but has twitching spasms in diaphragm, and is weaker. About 10 P.M. he was found in a state of prostration, with great sweating, and pupils contracted. He was quite insensible, and breathing was difficult; still the spasms could be excited. Stimulants were given and the bean delayed.

April 18.—Patient quite recovered from his state of prostration. He seems much relaxed generally, but slight spasms still occasionally recur. The tincture of the bean and of cannabis indica were given every three hours, but at night the solution of muriate of morphia was repeated at patient's own request.

April 19.—Patient in nearly the same state; perhaps a little weaker. The bean and morphia were continued.

April 20.—Patient is decidedly weaker to-day, but not worse otherwise; nevertheless in the afternoon he had several severe convulsions without any assignable cause. The bean did not seem to act in time to check them, and the stimulants did not prevent his sinking. He died at two o'clock on the 21st.

I was much disappointed with the result of this case. It seemed to be progressing favourably till the very last day, when it suddenly became worse, and ended fatally. The only way to account for this result is, that the original cause of the disease was a severe burn, and that during its progress a new irritation or excitement of the tetanus may have been caused.

Case V.—W. M'A——, aged 25, was admitted on the 25th June, 1869. A week ago he had his little finger and part of hand crushed, so that the finger had to be amputated. Symptoms of tetanus commenced the day before admission, and have progressed very rapidly since, and swallowing is attended with great pain and difficulty. Pulse 112. Bowels have been regular since injury.

A dose of croton oil in castor oil was first given, and then gr. xij of the powder of the bean with ♏xx of tincture of cannabis indica. The bean was repeated every hour, and the Indian hemp every second hour during the night.

June 26.—The patient has been much relieved, and can swallow better. His muscles are considerably relaxed, but during the night he had several opisthotonic spasms. He was, however, brought thoroughly under the influence of the bean, and became so sick as to vomit frequently. The severity of the convulsions then diminished, and he drank milk freely, but the twitches were very frequent. They occurred once in every two or three minutes, even when kept quite quiet. The swallowing likewise became less perfect, so that nourishment had to be given by injection into the rectum.

June 27.—This morning the patient was thoroughly under the influence of the bean, and his mouth could be easily opened, and the spasms were both slight and infrequent. But in the forenoon he did not get the bean so regularly, owing to his sickness, and consequently the fits became stronger and more frequent. In the evening subcutaneous injection of the tincture was resorted to, and the spasms rapidly diminished again as the influence of the bean gained the ascendency. But from some cause or other he had a very severe fit of spasms about midnight, and it both frightened and pained the patient greatly, so that he cried out.

June 28.—He complained of pain in his back, but was well under the bean, and greatly relaxed. His spasms were so slight that the medicine was given at longer intervals to-day. During its course, however, he became very unruly, and talked incoherently and wildly about self-destruction. He often tried to strangle himself with his own hands, and when prevented he voluntarily bit his tongue that he might bleed to death. Strange to say, all this time he had no fit of convulsions; but on the 29th, at 5 A.M. when a dose of the bean was being given, he resisting furiously, a violent paroxysm occurred—his chest was completely fixed, and in spite of the efforts made to accomplish artificial respiration, he died in the fit.

In this case, which was carefully watched and treated by my present house-surgeon, Mr. Aikman, I combined anodynes with the bean, and I believe the treatment would have been successful had it not been for the strange suicidal efforts of the patient. These, of course, both weakened him and excited the fits. In his, as in other cases wherever the swallowing was difficult, I had recourse to subcutaneous injections of the tincture of the bean;—not that I fancy there is any less absorptive power in the lining of the stomach in tetanus than in any other disease, but simply to avoid the muscular exertion of the act itself.

CASE VI.—J. Q——, aged 12, was admitted to the Royal Infirmary on the 23d July, 1869, with symptoms of tetanus of five days' duration, following a lacerated wound of left hand.

After the bowels had been opened by croton oil, patient was rapidly put under the influence of the Calabar bean. The tincture was at first used along with stimulants, and as soon as the bean took effect all tetanic symptoms disappeared, and the boy slept quietly. But on the morning of the 24th, a new specimen of tincture having been used for some hours, the symptoms reappeared with considerable violence. The powder of the bean was then substituted for the tincture, and used in doses of 10 grains every hour. The result was that during the rest of this day, and also during the 25th, he had almost continuous rest, although occasionally a slight arching of the back might be noticed. This occurred most distinctly about the times when the doses were due.

July 26.—About 1 P.M. to-day, the doses having been continued night and day as formerly, deep depression and sickness exhibited themselves. Therefore, lest the powdered bean should have accumulated in the stomach, a purgative dose of rhubarb was administered, and the bean was not given for some hours; but whenever slight spasms began to show themselves the drug was resumed at intervals of two hours.

July 27.—Since yesterday he has had no opisthotonos, and only twitches occasionally, but these increase if the bean is not given regularly every two hours. It was noted in this case that the pupils, contrary to all my former experience of this drug, became contracted and remained contracted during the whole period of the action of the bean on the system; so that the repetition of the doses was mainly regulated by the state of the pupil. If this were a constant or even a common phenomenon, it would be an extremely useful guide in giving the bean, but that effect on the pupil is not often seen unless the bean is applied to the eye itself.

July 28.—The benefit derived from the bean was by this time so apparent to the boy himself that he frequently called for it.

July 29—31.—During these days he remained in much the same state, but taking his food much better and with considerable relish.

August 1.—Twice to-day he had a peculiar tremulousness of his hands, but this disappeared on the administration of stimulants. On the 2d and 3d various attempts were made to lengthen the intervals of administering the bean, but the stiffness and arching of the back always made it necessary to recur to the drug at the end of the two hours. He continued to masticate his food well and easily.

August 9.—Has been sitting up in bed to take his meals, and is altogether better.

August 19.—Has had no bean since the morning of the 10th, and continues quite well. He has no spasms, and is running about the ward freely. He will be dismissed cured in a few days.

I cannot conclude the record of this case without stating that I believe its successful result is in a great measure due to the way in which the patient was watched in the early stage of his disease by my house-surgeon and dressers, who took the duty by turns both night and day.

I have thought it right to put these cases in some detail before the profession that they might be judged of independently, and thus assist in settling the question as to the value of the Calabar bean in traumatic tetanus. I fear that this disease is looked on by most surgeons as so utterly hopeless that cases of recovery from it come upon them as agreeable surprises, and they are for that reason led to publish them. But this renders it difficult, or perhaps impossible, to learn anything from the statistics of the subject. There are, however, some interesting data of a statistical kind in our possession regarding tetanus. Thus the late Professor Laurie,[1] in 1853, collected from the journals of the Royal Infirmary 50 cases of traumatic tetanus. They were treated in many different ways, and the results were 44 deaths and only 6 recoveries. Of cases previously published he tabulated 171, in which there were 80 deaths and 91 recoveries; but the contrast here makes it obvious that if all the cases from the practices of the surgeons to whom these cases occurred had been published, the result would have been very different.

Dr. Busch[2] tells us that of 21 cases he had 7 recoveries, *i.e.* 33½ per cent., and that Demme had 7 per cent. of recoveries, Blanc 43 per cent., and the surgeons in the American war 7·4 per cent. Still further it is interesting to know that Busch treated 12 cases and Demme 21 with curari, *i.e.* 33 cases with 14 recoveries and 19 deaths.

Again, I have treated 10 cases with the Calabar bean, and had 6 deaths and 4 recoveries. In this summary I omit one other case seen by me just when the patient was dying, and who therefore was not treated at all.[3]

Of the cases mentioned by Dr. Fraser in the *Practitioner*, August 1868, and collected by him with great industry, I am obliged to confess a doubt as to the second. For Dr. Fraser does not say that it was published by M. Giraldés, and on referring to M. Lemaire's case[4] I find that M. Giraldés was consulted in regard to it, and therefore he, in all probability, mentioned that same case as a curious one at the Surgical Society. At all events he does not seem to have published any similar case, and therefore the *Bulletin Général de Thérapeutique*, in reproducing my first cases from the *Lancet*, remarks that, though this treatment had been speculated on, "nul le croyons-nous, ne l'a mis en pratique, et les deux faits observés par M. Watson (de Glascow) pour leur priorité nous semblent dignes d'être rapportés." I believe then that I published in the *Lancet* for March 1867 the first case of traumatic tetanus ever treated by Calabar bean. Lemaire's case was not traumatic. Excluding it then, and the supposed case of Giraldés, we have published by others the following:—2, both recoveries, by Dr. Alexander;[1] 1, a recovery, by Dr. Campbell;[2] 1, a death, by M. Bourneville;[3] 1, a recovery, by Mr. Ashdown;[4] 1, a death, by M. Bouchat;[5] 1, a recovery, by Dr. Alex. J. Macarthur;[6] and 1, also a recovery, by Drs. Boslin and Curron.[7] These may best be seen in the tabular form as follows:—

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[1] *Glasgow Medical Journal*, vol. i. p. 353.

[2] *Medical Times and Gazette*, 1869, vol. i. p. 474.

[3] See *Lancet*, 1863.

[4] *Bulletin Général de Thérapeutique*, vol. lxvii. p. 81.

	Cases.	Recoveries.	Deaths.
Dr. Watson	10	4	6
Dr. Alexander	2	2	0
Dr. Campbell	1	1	0
M. Bourneville	1	0	1
Mr. Ashdown	1	1	0
M. Bouchat	1	0	1
Dr. Macarthur	1	1	0
Drs. Boslin and Curron	1	1	0
Cases treated	18	10	8

This statement, then, shows favourably for the bean. On the whole, however, I believe that the physiological effects of the drug form the best warrant for its employment in tetanus. We cannot expect infallible cures for any disease, far less for such a disease as this; but what I would urge is that, while we had no reason to look even for benefit from most of the remedies formerly used in cases of tetanus, we have reason from physiology to expect relief in that disease, even when we cannot hope for cure, from the Calabar bean; and this has been marked by my experience of its employment. It will be noticed in reading the cases just related, that in all of them considerable relaxation was produced, and the patient often expressed himself as greatly relieved, even when there was little real or permanent improvement of his condition. Surely this is something gained, and surely it indicates that we may learn by and by to use the drug to still greater advantage, and to cure a greater proportion of cases.

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[1] *Glasgow Medical Journal*, November 1868.

[2] *Lancet*, August 1867.

[3] De l'Emploi de la Fève de Calabar. Paris, 1869.

[4] *British Medical Journal*, March 21st, 1868.

[5] *Bulletin Général de Thérapeutique*, vol. lxxiv. p. 363.

[6] *Edinburgh Monthly Magazine*, 1869.

[7] *Chicago Medical Journal*.

I cannot here enter fully upon the very interesting physiological action of the bean on the lower animals. I may, however, refer to my paper on this subject in the *Edinburgh Monthly Journal* (vol. xiii. p. 999), and I may also state that I have lately repeated and varied these experiments without finding any reason to change the opinion I have there expressed. In short, the bean acts primarily on the spinal centres of motion, gradually obliterating voluntary power without affecting sensation. It early destroys the power of co-ordination of movements, and soon afterwards the susceptibility of reflex motions.

While, therefore, the morbid anatomy of tetanus is by no means settled, yet from what is well known of its living pathology, it is evident that the bean, alone or combined with an anodyne, fulfils all the requirements of the case, and that it does so in a way more direct and physiological than is at all usual in therapeutics. We must not, then, be discouraged by a large proportion of deaths from tetanus, even in cases where the bean has been carefully and skilfully employed; neither must we think it useless because sometimes it seems insufficient to combat this terrible antagonist. If in using it we are upon the right road, we can only attain to a better success by continuing to pursue that road until a better and safer has been discovered.

ON AN IMPORTANT NEW APPLICATION OF CALABAR BEAN.

BY T. WHARTON JONES, ESQ. F.R.S.

The following case, which will form a part of my forthcoming work on "Amaurotic Failure of Sight, caused by Railway and other Injuries to the Head and Spine," is so important as to deserve earlier record. Not only does it introduce to our notice a new resource in the treatment of paralysis of the third nerve, but it suggests interesting considerations as to the true physiological action of the bean.

"Mrs. E. W. a widow, aged 41, was admitted into University College Hospital under Mr. Wharton Jones, first as an out-patient, and shortly afterwards, May 31, 1869, as an in-patient. She laboured under complete paralysis of the third nerve on the left side of a rheumatic character.

"Had rheumatic fever two years before and was laid up therewith for three or four months. About the middle of April of the present year she was exposed to a draught of air, and almost immediately after noticed that there was something the matter with the left eye, as she could not raise the upper eyelid."

On examination of the affected eye at her admission, it was found that the patient could not raise the upper lid, nor turn the eyeball towards the nose, nor move it upwards or downwards. Besides this, the pupil was in the middle state of dilatation, and incapable of contracting under the stimulus of light.

The patient complained of pain over the eyebrow, in the temple, and in the side of the head.

When I first saw the case, I dropped a solution of atropia into the left eye for the purpose of testing the action of this agent on the dilator pupillæ. The ensuing dilatation had passed off, and the pupil had regained its previous middle state before the patient presented herself again. She was now taken into the Hospital and put on good diet, as it appeared that she had been living very poorly of late. At the same time she was ordered a pill containing 1 grain of calomel, ½ grain of extract of colchicum, and 2½ grains of Dover's powder night and morning.

I now for the first time dropped a solution of the extract of Calabar bean into the affected (left) eye for the purpose of testing the action of that agent on the paralysed sphincter pupillæ. In doing so, the idea glimmered through my mind that the Calabar bean might possibly exert a beneficial action on the paralysed levator palpebræ, and on the similarly affected recti muscles.

The effect of the application of the Calabar bean, made on the 31st of May, was to contract the pupil to the size of a pin's head in the usual time.

On the 2d of June, the action of the Calabar bean on the pupil had passed off, but it was found that the patient had acquired some slight power over the upper eyelid, so as to raise it a little by a strong effort. Seeing this, I repeated the application of the Calabar bean, as above mentioned, and discontinued the other treatment.

The quantity of Calabar bean used at a time was about a ¼ grain of the extract (an extract for which I am indebted to Dr. Fraser of Edinburgh) reduced to the state of an emulsion by the addition of a few drops of water. This was freely poured into the eye.

On the 4th of June the patient could raise the upper eyelid a little more. The Calabar bean drops were accordingly repeated and continued thereafter three times a week. Under this treatment, I found at every visit I made to the hospital that the power over the levator palpebræ had increased.

On the 14th of June, the report states that the patient could raise the upper eyelid sufficiently for the purposes of vision, and that she could move the eyeball both inwards and upwards, but only a little downwards. There was still double vision.

By the 21st of June, the patient had acquired nearly complete command over all the muscles of the eyeball, except the inferior rectus, and could raise the upper eyelid as well as that of the right side, and there was but slight diplopia.

On Monday, June 28, it is reported that Mrs. W. could raise the left upper eyelid well, could turn the eyeball towards the nose and upwards well, but could not quite fully turn the eyeball downwards. On looking downwards, therefore, she saw double.

Wednesday, June 30.—All the movements of the eye perfect, and no double vision, except in a slight degree on looking downwards. In regard to the pupil, it is to be remarked that it became contracted to the size of a pin's head at the usual interval after each application of the Calabar bean, but again returned to the previous middle state when the influence of that agent had as usual passed off.

The sphincter pupillæ has not, like the levator palpebræ and muscles of the eyeball supplied by the third nerve, as yet regained its power permanently, so as to contract under the influence of the action of the light on the retina. It is to be noted that the pupil of the right eye is in a nearly similar state, being but little moveable under the stimulus of light. The adjusting power for the vision of near objects is impaired in both eyes, so that the patient requires the help of convex glasses sixteen inches' focus to read with. The sight has otherwise remained good.

The history of the above case, taken together with some further observations and experiments which I have made, throws light, not merely on the action of Calabar bean, but on the nature of the very interesting antagonism which exists between the effects of the latter and those of atropia. In the first place, I shall relate, as a clinical supplement to this example of the action of Calabar bean, an interesting experiment with atropine in a case of paralysis of the external rectus, depending, probably, on some intra-cranial affection. I was led to try this remedy by the consideration that the sixth nerve, which supplies the external rectus, is very closely connected with the sympathetic, and that the action of atropia is probably upon the latter. The patient had been some time under treatment, and under the use of iron and nux vomica his general health and strength had greatly improved, and the paralysis of the external rectus had considerably diminished. This case, being of probably intra-cranial origin, was likely to be less amenable to *local* treatment than the other. As soon, however, as I began to drop atropia (gr. iv—℥j) into the eye, the progress of the external rectus towards recovery was strikingly hastened, and all other treatment was discontinued, as unnecessary. This observation, together with the case first related, seems to point clearly to an antagonism between the two drugs, as regards effects upon the eye; atropine stimulating the sympathetic, Calabar bean the third nerve. This is not the whole of the antagonism, however, between the two agents.[1] I have made a series of observations, upon the circulation of the frog's web and of the rabbit's ear, as affected by the local application of Calabar bean and atropine respectively, from which the important circumstance appears clearly made out, that *while atropine contracts the arteries, Calabar bean contracts the veins.* In the frog's web only the atropine effect can be clearly demonstrated, for the *veins* of the web are hardly at all muscular; but in the rabbit's ear the effect of Calabar bean upon the veins can be well seen, the latter being well furnished with muscular fibres. The hair should be shaved off, and a vein of fair size being selected, the epidermis over it is rubbed thin with a piece of fine sandpaper, great care being taken not to carry this process too far. It is necessary then to wait a little time in order that the slight irritation thus produced may subside. The solution of extract of Calabar bean is then applied over the vein, and contraction follows speedily and in a marked degree. The effect of this agent in causing contraction of veins can also be exhibited to a limited extent, but still distinctly, in the human subject. Under the application of the solution of the extract to a slightly congested conjunctiva, if we closely watch the superficial veins of medium size and running a straight course towards the cornea, we shall convince ourselves that they diminish in calibre *pari passu* with the contraction of the pupil. Very large and tortuous rectal veins are not amenable to this influence.

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[1] We learn from Mr. Jones that his opinion is in favour of a complete physiological antagonism between Calabar bean and atropine; an antagonism which is much more direct than that between atropine and morphia, which seems largely accidental, while the opposition between atropine and Calabar bean is essential and specific. This idea certainly agrees very well with the results of our own experience. The antagonism between Calabar bean and atropine has been recognised by Dr. Fraser. We may mention that more than three years ago, in a series of experiments on dogs, which were unavoidably broken off sooner than we wished, it was impressed on our mind that these two substances were opposed as regards most if not all of their actions, and in a toxicological point of view were probably antidotes of each other.—Ed. Pract.

ON THE HERPETIC FORM OF STRUMOUS OPHTHALMIA, AND ITS TREATMENT BY ARSENIC.

BY ROBERT P. OGLESBY,

Assistant Demonstrator of Anatomy in the Leeds School of Medicine.

I STATED (*vide* the *Practitioner* for May 1869) that I possessed no record of any case of strumous ophthalmia associated with herpes frontalis. I have now the notes of such cases. For the notes of one case, I am indebted to the kindness of my friend Dr. Allbutt, of Leeds. The other cases came under my own care.

In both these cases of herpes frontalis, the eye suffered, but in neither seriously. In the case under Dr. Allbutt's care, the conjunctiva was very vascular, and the edge of the cornea slighty ulcerated, but there were no symptoms of deep-seated mischief. In the case under my own care, a very deep ulcer of the cornea was the worst symptom. In neither case was the disease of the skin ushered in with any noticeable degree of pain, nor was the disappearance of the eruption followed by pain.

In no case of H. labialis have I seen deep-seated inflammation of the eye, although I have carefully examined for any such complication.

In the cases of H. labialis under my care the eruption has not accurately followed the exact distribution of the second division of the fifth. In one or two cases, the vesicles followed the small branches distributed to the side of the nose—but only partially those branches distributed to the upper lip, stopping short in a line with the nostril. In other cases, no vesicles invaded the side of the nose, but closely followed the branches distributed to the upper lip.

I have no record of any case in which the eyelid suffered from the eruption, or in which the vesicles appeared on the palpebral conjunctiva.

H. labialis associated with strumous ophthalmia in children, generally appears as the sequelæ of some febrile attack—such as scarlet fever or measles, and I have seldom met with it in other than children of a strumous or phthisical diathesis.

In cases where the eruption has affected both sides of the face, I have found the ophthalmia most intractable, and have noticed the recurrence of the disease in such cases at more frequent intervals than in cases of unilateral H. labialis.

Hitherto I have not obtained beneficial results from the application of local remedies to the eye in these cases; and I would observe that the treatment constitutionally, by means of arsenic, has seldom failed to prove of great value in my hands.

Case I.—Herpes of the left cheek. Minute ulcerations round the edge of left cornea.

Early during the present year, Mrs. K—— consulted me about her child, aged two and a half years. He was a healthy-looking rather stout boy, and had been ailing for ten days. His left cheek was covered with patches of herpes, the vesicles following pretty accurately the peripheral branches of the second division of the fifth. The eyes were shaded from the light by a large piece of green silk, and the child also covered the diseased eye with both hands, and obstinately refused to let me examine it.

On inquiry, I ascertained that the child during infancy had been delicate. He had had a severe attack of measles during the latter part of the past year, which left him weak for some time. There was no history of syphilitic taint, but the joints were enlarged and rickety, and the head ill-shapen and large in proportion to the body. The cervical glands on the right side were swollen. His skin was hot and dry; the tongue coated and white. The bowels acted irregularly, and the fæces were light coloured and offensive. He slept badly, and often awoke crying. He was thirsty, and wishful for cold water.

The vesicles were small and had existed more or less for ten days. They were grouped upon the left cheek and side of nose. The lower eyelid of that side was much swollen, but free from the eruption. The right eye was quite healthy, but suffered from slight intolerance of light. The left eye I failed to get a glimpse of, but there was intense intolerance of light and much lachrymation.

Arsenic in two-drop doses thrice daily.

When next seen at the expiration of five days, the eruption had begun to fade. The diseased eye was now so tolerant of light, that I was enabled to make a satisfactory examination. The conjunctiva was inflamed, and round the edge of the cornea were several minute ulcers. The skin was less hot, the appetite was good, but the bowels remained obstinate. At the expiration of two weeks, I received word from the parents that the child was convalescent.

CASE II.—Herpes confined to left cheek, not affecting side of nose. Ulcer of cornea.

On the 28th day of January, 1869, Mrs. B—— consulted me about her little girl, æt. fourteen months. She gave me the following history:—The child had been delicate since birth. When six months old, it laboured under a smart attack of bronchitis. Four months later, she suffered from measles. There was a phthisical family history. The child was rather stout, had considerable colour in the cheeks, and appeared to be enjoying (excepting the local affection) good health. A few days prior to the appearance of the eruption, she had been extremely fretful, the appetite which had been good became capricious, and she passed restless nights.

There were two patches of herpes: the upper one situate beneath the lower eyelid, the lower one near to the upper lip, though not actually encroaching upon it. The vesicles were unusually small. Simultaneously with the appearance of the eruption, occurred intolerance of light in the left eye, which had steadily increased. There was a central ulcer on the cornea, with but slight conjunctival redness.

Arsenic in increasing doses had a beneficial effect, and at the end of two weeks the patient ceased to attend, being convalescent.

CASE III.—Ulcers of cornea. Herpes affecting both sides of the face.

During the latter part of January 1869, Mrs. J—— attended with her child. The little boy had been healthy for the first ten months of his life; then, without any apparent cause, became ill and weak, and lost much flesh. He then suffered from diarrhœa. Near Christmas time (1868) he began to shun the light, and complained of pain in the eyes. The right cheek shortly afterwards became red: then the left cheek suffered in the same way. In a short time, the redness was followed by groups of vesicles. He complained of headache and thirst, but his appetite was good, and his bowels acted properly.

Present condition.—The herpetic patches invade both cheeks and sides of nose. The vesicles are large, and, in one patch on the left cheek, confluent. The conjunctiva of the right eye is very vascular, and the cornea ulcerated near to its centre. There is a slight marginal ulcer of the cornea in the left eye, with but slight conjunctival irritation. Intolerance of light is a distressing symptom. The lower lids are swollen. Both pupils are contracted, but the irides are free from disease.

Two drops of arsenic in the form of Fowler's solution to be taken three times a day for one week.

The mother attended again the following week with her boy. The intolerance of light was less marked. The vascularity of the right eye had almost disappeared, but the ulcer appeared a little deeper. The left eye had much improved. The eruption had partially faded on the right cheek, but one or two fresh groups of vesicles had appeared on the left cheek.

Convalescence rapidly ensued, but the mother ceased to attend with the boy before he was quite well.

At the expiration of two months, she again attended with the child, stating that the disease had returned. The boy convalesced rapidly after his last attendance, and remained well for several weeks. He then became fidgety and cross, lost his appetite, and passed restless nights. The eruption was again bi-lateral. The vesicles were small, and chiefly confined to the side of the nose. The old ulcer on the right cornea was not quite healed, but the other textures of the eye were healthy.

Arsenic was again prescribed, but on account of causing violent sickness, was discontinued. The eruption faded at the end of the fourth week. Simultaneously with its disappearance, severe conjunctival irritation occurred in both eyes, which resisted all treatment for a considerable time.

For the notes of the following case I am indebted to the kindness of Dr. Allbutt, of Leeds. I may add, that, unknown to each other, we have been collecting evidence on this subject for some time past. Dr. Allbutt assures me that arsenic as a remedy in these cases has proved of great service in his hands.

CASE IV.—Herpes of left side of face and brow. Inflammation of the superficial textures of eye. Absence of neuralgia.

A girl, æt. twelve years, was lately admitted into the Leeds General Infirmary under the care of Dr. Allbutt, suffering from strumous ophthalmia associated with herpes. The eruption followed the course of the branches of both first and second division of the fifth, distributed to the left side of the face and brow. The eye was much injected, and superficially ulcerated. There was total absence of any neuralgic pain.

She was at once placed upon arsenic, and no local applications were ordered. From the establishment of this treatment, the whole side of the face and the eye cleared up with remarkable rapidity, and she was soon convalescent.

CASE V.—Herpes affecting the right side of face and brow. Deep ulcer of cornea. Absence of neuralgia.

April 26, 1869, Charles William K——, æt. two years, suffers from strumous ophthalmia associated with herpes, of the right side of face and brow. The eruption follows pretty accurately the branches of the first and second division of the fifth: both the side and tip of nose are affected. There is a deep ulcer on the right cornea. There is clear evidence of the absence of any neuralgia, for the child has not been fretful, and appears to enjoy good health ; the most prominent symptom being intolerance of light. He convalesced rapidly, after taking arsenic for a short time. The disappearance of the rash was not followed by neuralgia.

OWING to the unusual length of one of the original papers in the present number, the Editor finds it necessary to postpone his intended paper on the Vaccination question till the October number.

Reviews.

A Handbook of Therapeutics. By SIDNEY RINGER, M.D., Professor of Therapeutics in University College; Physician to University College Hospital. London: H. K. Lewis, 1869. Pp. 482.

DR. RINGER has undertaken a very proper and necessary work in writing an elementary manual of therapeutics. In the present day, the lecturer on what is called Materia Medica, if he be a person of energy and activity of mind, must be conscious that the only matters connected with remedial agents on which it is the least use to give formal lectures, are the actions which they excite in the body. The physical and botanical properties of drugs, and their pharmaceutical preparation, are things which should be left to the students to get up for themselves with the aid of books and specimens, and under the control of frequent *vivâ voce* tutorial examinations. The only use of formal lectures is to convey to the minds of the pupils such an outline of the action of remedies as may enable them to follow with intelligence the prescriptions which they will see written for cases of disease in the wards and in the out-patient room. At the same time, as the pupils addressed are (under the present bad educational arrangement) only first year's men, no doubt the information supplied should be simple, and should avoid anything like profound speculation, or references to elaborate chemical or physiological theories. We presume that the work before us is such a text-book as Dr. Ringer would put into the hands of his class; and it was therefore reasonable that in writing it he should avoid committing himself to large schemes of classification, which could only be justified by arguments such as the students would not be qualified to appreciate. It is upon this basis, therefore, that the merits of the work should be judged.

Some classification, however, it is absolutely necessary for every writer on therapeutics to adopt, and Dr. Ringer has selected that of Buchheim as the most appropriate model. We confess that we cannot thoroughly approve the model. The system is too narrow; for although such agents as cold and heat and oxygen are included, there is no systematic treatment of dietetic agents, no sufficient account of the large and important subject of mineral waters, and nothing respecting the medical uses of electricity in its different forms; although the two first of these subjects are incidentally discussed, in a partial manner, under several different headings. Our own opinion on this matter is decided. We think that even an elementary course of therapeutics should be arranged on a more definite plan than that adopted by Dr. Ringer. In particular we would insist that remedies should first of all be divided into two principal groups —those which act only locally, and those which act upon the organism at large. And under the former heading we believe that it is necessary, if sound preliminary instruction in therapeutics is to be given, to make a leading and principal group of *dietetic* remedies, including the ordinary foods—nitrogenous, hydro-carbons, hydrates of carbon, water, salts—which contribute directly to nutrition, and also the medicines which are chemically and physiologically allied to the substances ordinarily called foods. When the student has received a sound instruction in these matters, the teacher might proceed to deal with the action of such influences as light, heat, cold, baths, and electricity.

Not until the whole of the above-mentioned subjects had been discussed would we advise the teacher of therapeutics to introduce his pupils to the far more difficult study of the action of drugs proper; that is, of substances distinctly and powerfully poisonous in their larger doses. For this is quite certain, that if the young medical man carries with him into practice only a sound working knowledge of the physiological relations of the various foods to diseased conditions of the body,—of the nutritive actions of cod-liver oil, iron salts, chloride of sodium, phosphate of lime, fresh vegetable juices, &c.—he will have at least acquired a large amount of positive knowledge for which he will find the most important applications in every-day practice, and *without* which the most copious and accurate acquaintance with the current dogmas about the action of drugs will never enable him to treat disease safely or effectively. We believe we shall not be accused of exaggeration, if we say that it is of more consequence to know when to give beef-tea or milk, rather than solids; when to recommend or to forbid a starchy diet, when to limit or to increase the allowance of fatty food, and when to administer iron tonics, than to know the therapeutic traditions even with regard to such drugs as opium or calomel, or iodide of potassium. Let us by all means teach our pupils how to handle the *harmless* means of treatment which are at our disposal, before we plunge them into the far more intricate study of remedies which may be powerful for good, but which, misused, may do the most serious harm.

We have no wish, however, to dwell on this defect of the book (as we think it), but will proceed to the consideration of some of Dr. Ringer's remarks on special drugs. And at the outset we must call attention to two features of his work, which will undoubtedly attract much attention, and perhaps excite a good deal of opposition. In the first place, we often find the author recommending doses which are very much smaller than those in ordinary use; and secondly, we observe that in certain instances (*e.g.* ipecacuanha) he recommends the smaller doses of a drug for the treatment of symptoms which closely resemble those which the agent can itself excite when given in poisonous quantities. This will probably be styled "homœopathy," by many; indeed we have ourselves heard this remark made; but we would earnestly protest against the justice of such a criticism. Dr. Ringer has raised a most important question, that of the variation in effect which can be produced by diminishing the dose of a drug; but he has not committed himself to any such nonsense as infinitesimal dosage, or as the so-called "law" of similars. In citing the facts which he has observed with regard to the action of very small doses of wine of ipecacuanha in arresting vomiting, he has merely produced an additional piece of evidence—though a very interesting one—of that *tonic* action of this drug upon the nervous system, of which there are plenty of proofs accessible to any one who will use his eyes instead of merely swallowing the dogmas of routinists. It is an amazing thing that the majority of medical men will persist in seeing in ipecacuanha nothing but a depressing emetic or expectorant, though the very circumstance of its cinchonaceous parentage might raise some anticipations of those powerful qualities as a nervine restorative, to which its effects in the treatment of severe tropical dysentery abundantly testify. We think, however, that the author should have brought out one fact more clearly, namely, the extreme variations in individual susceptibility to the drug,—variations which are as remarkable as the analogous differences in regard to susceptibility to alcoholic influence. The same criticism applies to his interesting remarks upon the employment of small doses of arsenic. Dr. Ringer informs us that he has found the use of liquor arsenicalis in one or two drop doses, in various affections of the gastric and intestinal mucous membrane, very useful; and his statements on this point are valuable. But he fails to bring out clearly, what is surely a remarkable feature in the action of arsenic, that its effects upon different individuals vary so widely, that the therapeutic dose for one person may be a highly poisonous dose to another, and that (conversely) quantities of arsenic which would produce serious toxic effects in certain constitutions would be harmless or actively beneficial to others. If we may venture to speculate as to the source of what seems to us a not unimportant omission both in the case of ipecacuanha and of arsenic, we should say that Dr. Ringer has not appreciated the powerfully neurotic influence of these drugs. Even when the tempting and highly suggestive subject of the action of arsenic in asthma presents itself, he merely chronicles the success of the remedy, but neglects a very obvious inference. And we must urge the same objection to his treatment of the therapeutics of nitrate of potash. He satisfactorily disposes of the theory that this drug exerts a defibrinating influence upon the blood in acute rheumatism, and thus proves directly antagonistic to the most disastrous effects of that disease. But he omits all notice of the remarkable influence of nitrate of potash upon the nervous system, which affords at least a very plausible explanatory hypothesis of the relief which it seems to afford to the pain and articular swelling in rheumatism. He does not even mention the very remarkable influence of volatilised nitre in calming the spasm of asthma ; a neurotic effect of so powerful and obvious a character, as to stamp the drug with unmistakeable nervine qualities.

Such, in kind, are the principal defects of Dr. Ringer's book, to which may be added the less important fault of a too careless style of literary composition, which is to be regretted in the case of a work that must, from its general usefulness, and from the author's reputation and position, become a widely-used class-book. Let us hasten to say, however, that notwithstanding these drawbacks, the work contains a large amount of most useful matter, much of which will be novel to the English student. There is moreover an honest directness of statement, and an apparent desire to balance opposing opinions with candour, which is calculated to attract confidence. We can scarcely doubt that the present edition will be quickly sold, and we trust that the author will immediately commence the work of revising the book with care. In any future issue we think he would do wisely in refusing to allow the mere bugbear of making a large book to hinder him from introducing a careful discussion of such matters as the principles of dietetics in disease, of balneology, of electro-therapeutics, &c. And he should certainly have his proof-sheets carefully revised by some competent friend ; for his present volume is an instance of the notorious impossibility of trusting an author to correct his own work for the press. We shall conclude this notice by directing the attention of the reader to some of the more important articles. Digitalis is very well handled, although we think the author accords rather too much importance to the experiments of Dr. Nunneley, which we shall have occasion to criticise in an early number. Upon aconite again, though we cannot but think him unreasonably sanguine, Dr. Ringer makes important remarks. He has made original researches, also, with Mr. Vickers, upon the action of Lobelia, and of Actæa racemosa, which will be noted with interest. It is a point of considerable consequence, that the latter drug has proved to be of great service in some of the most intractable cases of rheumatoid arthritis. Upon the uterus, Dr. Ringer declares that actæa acts in a manner superior to that of ergot, producing contractions not so continuous, but more powerful and more rhythmical than those evoked by the latter. It thus is less dangerous to the life of the child, and to the soft structures of the mother. Dr. Ringer says also that it can certainly arrest menorrhagia, but he adds that it is inferior to bromide of potassium for this purpose, and we may draw attention to the important statements which the author makes on this latter substance. We presume he must have obtained strong evidence from personal observation, or he would hardly have spoken as unreservedly as he does (at page 74) of the anti-menorrhagic properties of the bromide. He appears to think that it is superior to every other remedy for this purpose.

In conclusion we may mention that though the volume contains no account of the principles of invalid dietetics, there is a very useful appendix in which the modes of preparation of a number of articles of sick diet are clearly and simply described.

The Drift of Modern Medicine. An Address delivered at the Annual Assembly of the British Homœopathic Society, June 30, 1869. By ALFRED C. POPE, M.R.C.S., &c. &c. London: H. Turner & Co.

THE pamphlet before us is, we confess, selected as a mere peg whereon to hang certain remarks on the present attitude of homœopathic medicine, which we think may not be without interest to the *soi-disant* orthodox section of the medical profession. Not that we undervalue the writer's ability; on the contrary, he appears to us to be a man of respectable intellectual powers; and we trust we may always have grace to abstain from the vulgar custom of assuming that a homœopathist must needs be either a weak-minded or an unprincipled person. What we mean is, that the author of this pamphlet has, in the necessarily brief limits of an orally delivered address, merely touched on points which must be profoundly investigated before long; and has, as we think, quite lost himself, not for want of original ability, but simply from adopting an entirely wrong method of investigation.

Homœopathy is at present, as we have already hinted, in a curious position. Although its adherents are so far faithful to the old traditions of their sect that they still hold the doctrine of "similars," they have dropped—at least the most advanced and intelligent among them have quite abandoned—the system of giving infinitesimal quantities of drugs, a practice which we need hardly say was quite as fundamental a portion of the true Hahnemannic doctrine as was the "law of similars" itself. Of the Hahnemannic teaching there only now remain, as vital and working elements, (1) the opinion that diseases are to be treated by the use of *small* (*not* infinitesimal) doses of such drugs as, in poisonous quantities, can cause the very diseases themselves; and (2) that over and above the constitutional disturbance which may be present there is, in every case of disease, some local mischief for which a remedy may be found capable of exerting a corresponding local healing action.

Now the position which Mr. Pope assumes througheut his address, and assumes apparently in perfectly good faith, is pretty much this. In the first place, he ignores the revolutionary character of the change in homœopathic practice which is involved in the practical abandonment of infinitesimal dosing. Secondly, he assumes that the orthodox medical profession, as represented by its most advanced and intelligent leaders, is coming round to an acknowledgment of the truth of Hahnemann's law of similars, though it churlishly refuses to allow the merit of discovery where merit is really due. And thirdly, he assumes that the general abandonment of the so-called heroic methods of treatment which were in fashion as late as twenty or thirty years since, is due to the arguments and the successful practice of the homœopathists. We propose briefly to criticise these positions *seriatim;* and it will be convenient to commence with the last.

We have already said that we are not inclined to question either Mr. Pope's ability or his sincerity, but he makes a large demand on our confidence in the latter when he propounds the idea that the changes in medical practice which the last quarter of a century has witnessed are due to the example and precepts of homœopathy. We are not going to deny the possibility that thoughtful medical men may have been helped to a tentative abandonment of bleeding, salivation, &c., in acute inflammations, by the spectacle of patients who recovered from serious illnesses of this kind under the solemn foolery of dosing with globules which were evidently quite inert; but we may safely assert that even this indirect influence would not have been exerted on the minds of the leaders of medical progress had they not been already in a state of active and progressive change, which resulted from perfectly different causes. Whoever will candidly retrace the history of medicine into the last years of the eighteenth century will perceive two influences then at work, in which lay the germ of everything that has given a special character to the altered medical practice of the present day. The powerful speculative struggles of Brown and of Darwin, and the magnificent burst of John Hunter into the almost untravelled regions of comparative anatomy, made all that has followed an inevitable necessity. Mr. Pope repeats the familiar partisan view, which represents Hahnemann and his followers as the inaugurators of a rational inductive method of medical research; but it argues a scant acquaintance on his part with the history of human thought, or the principles of logic. Hahnemann's method of investigating symptoms, for instance, was the merest *inductio per enumerationem simplicem;* and his famous law of similars, as far as it was original at all, was based on the most egregious metaphysical fallacies, as we shall presently endeavour to show. We are not blaming the homœopathists for having failed in those days to make a right application of the inductive method to medical research, for neither did their orthodox contemporaries do so. But it was and is the just reproach against them that they bore little or no part in the noble and fruitful labours of the great anatomists, physiologists, and chemists, which have subsequently thrown such a flood of light upon the functions of the human body, and the steadily progressive influence of which, in liberalising the intellect of the profession, and freeing it from the fetters of metaphysical speculation, has been so remarkable. The tree is known by its fruits; and it is significant that this latest manifesto of homœopathy expressly adopts and consecrates the hypothesis of a separate vital force, and utterly misreads the drift of the best modern thought on this deepest question of biology. It is amusing enough to see the author, who coolly (or perhaps ignorantly) passes by the opinion of such a man as Huxley on such a topic, attempting the ticklish task of defining the nature of Life. The result is such as might be expected. In one paragraph he suggests that "life is that mysterious something, which permits of action taking place in an organization." Six lines further on he says: "It is in the power of action possessed by the organization, in which alone life can be said to consist." (The grammar is queer, but let that pass.) Mr. Pope does not see that the two ideas are entirely distinct from each other, and we should say it would be good for his soul if he were put to the penance of reading Aristotle's *De Anima* and *De Generatione,* and thereby get the biological bumptiousness knocked out of him. Poor Béclard, whose definition of life Mr. Pope deprecates, had at least gone through *that* preliminary discipline!

It is a more serious ground of complaint against Mr. Pope, in common with other homœopathic writers of the day, that he ignores the portentous character of the change which has been introduced into homœopathic practice by the tacit abandonment of infinitesimal doses. It is almost more than carelessness of thought which permits him to charge Dr. Ringer, for instance, with unacknowledged appropriation of the discoveries of homœopathists, on the ground of that gentleman's recommendation of drop doses of ipecacuan wine for vomiting, and of similar quantities of liq. arsenicalis for dyspepsia. It may be that homœopathists, abandoning entirely their original principles, have come to administer these very doses, for these purposes. It *may* also be that neither they nor Dr. Ringer are correct in their observations of the effects of such treatment. But right or wrong, the matter has nothing whatever to do with homœopathy as established by Hahnemann; nor can the practice in question be in any rational manner deduced from the law of similars as understood by that author. It is easy for any moderately intelligent person who enjoys the superior physiological information current at the present day, to put his finger on serious blots in the reasonings of the "orthodox" profession, thirty years ago, on therapeutics; and to show that on some vital points there has been a great revolution in the principles, even of moderate and safe men, since that time. But it is the strangest delusion to imagine that homœopathy has been steadfast on the Hahnemannic basis; for, in fact, it has been blown about with every wind of doctrine, and now only possesses a precarious vitality by the deliberate sacrifice of that mystical portion of its doctrines—the infinitesimal dosage—which formerly was one of its prime attractions.

In truth, however, it is only when we consider the doctrine of "similars," and observe the devices by which modern homœopathists are fain to satisfy their consciences as to their fidelity to that ancient symbol of their faith, that we can appreciate either the depth of the confusion in which the majority of the sect—the men of ordinary minds—are plunged, or the bitterness of vexation with which the abler members of the party begin to *feel*, rather than to plainly *see*, that the reforms proposed by their founder were either no reforms at all, or were such only by accident. That "like cures like" was, we need hardly say, no invention of Hahnemann's; it was only one of many successive waves of mephitic vapour from the Stygian marsh of ancient metaphysical medicine. That Hahnemann should have thought salvation from the diseased condition in which he found the practical medicine of his day was to be got from such a source of inspiration, is rather sad than strange.

> "The time is out of joint; oh cursed spite
> That I was ever born to set it right!"

would have been an appropriate sentiment upon his lips, as a more honest expression of disgust at the coarse injustice of his orthodox persecutors; but it would have been even more bitterly true had he uttered it as a death-bed recantation. His was that hardest fate of all which besets a man who has just enough genius to perceive that a revolution is inevitably impending, but lacks the insight to discover the path of safe progress. That he caught glimpses of the absurdity of treating disease as an *entity* is quite certain. But it is equally certain that he was in bondage to a congenital incapacity to distinguish between words and things; or he would have seen that the "likes" and the "unlikes" of the homœopathic and the allopathic heresies, respectively, are such only in name and not in fact. To call mercury a "similar" of syphilis, because both the disease and the drug can produce morbid affections of the mouth and the periosteum, is just as absurd, and is an absurdity of just the same kind, as to say that mercury is an "opposite" of inflammation because it can help the removal of the effused products of one kind of inflammation. The theory was, in each case, a mere "idol of the cave;" the speculator did not truly observe the facts, and make a proper induction, but took note only of such glimmering hallucinations as presented themselves to his own self-limited outlook.

In full agreement with the essentially metaphysical predilections which induced Hahnemann to fight (what he thought) the battle of therapeutic reform upon the basis of a supposed law of similars, are the doctrine of infinitesimal dosage and the still more recondite theory of increased potency from dilution. To any one who is practically familiar with the ordinary "origins of human error," the genesis and embryonic development of these thoughts are clear enough. The philosopher Hahnemann was in a state of violent and not unnatural disgust at the recklessness with which physicians attacked a supposed enemy—disease—without any regard to the safety of the tenement in which it was presumed to have taken up its quarters. To him, thus disgusted, there presented itself the ancient theory of similars, illuminated by the *ignis fatuus* light of a few such facts as the occasional shivering in cinchonism. Doubtless, some twinges of conscience afflicted the derider of hostile morbid entities, as he saw himself in danger of fathering a theory of *friendly medicinal elimination*, a theory of medication by remedies something akin to the kindly social tact by which a gentle-voiced lady extinguishes a well-meaning, loud-tongued, conversational idiot. But instead of being driven by this reflection into the safe path of philosophical induction and verification, he was led by his native and acquired predilections to plunge into a still deeper mystification. The "potencies" which his delirious fancy saw leaping round the pestle which chased the billionth of a grain of arsenic round a twelve-inch mortar, were certainly the merest spectres; but they were the legitimate outcome of a mode of speculation in which the inquirer determined to settle all pending questions in his own lifetime, or at least to settle all the fundamentals of a system.

How much longer the sect of homœopathists will endure is one of the most difficult and uncertain inquiries possible; and we confess that it does not greatly interest us. The underlying assumption that there are any such remedies as we can reasonably call "similar" or "opposite" to the diseases for which they are used, either by orthodox or by heterodox practitioners, is a naked fallacy; a member of the great society of intellectual begging-letter impostors too well known to the detective police of modern science to be much longer endured. Our whole anxiety at present is that clever men like Mr. Pope may see their way out of the intellectual *impasse* in time to dissociate themselves from luckless companionship before the smell of fire has passed upon their garments.

De l'Application de la Méthode sous-capsulo-periostée à la Resection tibio-Tarsemie. Par le Docteur AMÉDÉE NODET. Paris: Delahaye, 1869.

(*On the Application of the Subcapsular Periosteal Method to the Tibio-tarsal Resection.* By Dr. NODET, of Lyons. Pamphlet, pp. 79.)

THE little *brochure* before us furnishes a good instance, if any were needed, of the interest that attaches to physiological and microscopical inquiries, and of the close relation that exists between scientific observation of healthy processes, and the application of the knowledge so obtained to the treatment of disease, whilst it further gives abundant evidence of the care with which conservative surgery is now pursued, and the advantage that is taken of the least hint afforded by any advance in our knowledge derived from experiment on the lower animals. The great importance of the periosteum in generating new bone has long been known, and most of the large museums, both in this country and abroad, contain preparations made after the fashion of those of Flourens, Stanley, and others, showing the value of the periosteum as a centre from which ossification may proceed. About ten years ago, however, the subject was more systematically investigated by M. Ollier, to whom the general introduction of the mode of operating which is the subject of these remarks is due. In M. Ollier's original investigations, which have recently been published in a collected form, it was shown that in the case of rabbits, and especially of young rabbits, the removal of a strip of periosteum, and its transplantation into another part, led to the formation of a column of bone of corresponding size, and that even a fragment of periosteum of one animal might be transplanted into any vascular part of another with equal success. These experiments, when reported to the Académie des Sciences, attracted considerable attention, and speedily caused efforts to be made to save the periosteum in operations and in accidents occurring in the human subject where previously it would have been removed. Thus Langenbeck preserved it in a case where the removal of a portion of the tibia and fibula from gun-shot injury was requisite; Ollier himself had previously removed the upper part of the shaft of the humerus, when also the periosteum was preserved with the best success, the shortening only amounting to about half an inch, a matter of small importance where the upper limb is concerned. After various other cases had shown the value of the method, M. Ollier applied it in a case where it was requisite to resect the tibio-tarsal articulation, also with good results, and he has subsequently operated three times; but M. Langenbeck appears to have practised it most extensively, since he has had no less than eleven cases.

M. Nodet approves of the method of operating adopted by M. Ollier, of which the following constitute the essential features. First, the integuments and periosteal tissue are divided on one or both sides, according to whether one or both bones are to be resected; the incision commencing about three inches above the malleolus, and terminating just below it. The periosteum is now detached from the malleolus with a peculiar instrument invented by M. Ollier, termed a *détache-tendon*, a small incision being made perpendicular to the first, both above and below, to allow this to be accomplished; a curved instrument containing a chain saw is then passed round the tibia beneath the periosteum, and the requisite section is effected. The fragment is seized by lion forceps, and the posterior part, which was not previously accessible to the instrument, is carefully detached from the periosteum. The same proceeding is to be adopted for the fibula.

Button-holes made in the membrane in the act of detachment are of little consequence, but it is better to remove a fragment of bone than to leave a portion of the periosteum; and when such pieces have been removed, it is better to allow them to remain than to attempt to pick them off, as, if not separated by suppuration, they are very useful in forming centres for the development of fresh bone. The principal contra-indications, as tubercular deposits, very extensive disease, age, &c., we need hardly stop to mention here, as they are common to this operation and all modifications of resection; but we would just observe that erysipelas seems to constitute a somewhat frequent and very unpleasant complication, and that hence unusual care should be taken to place the patient under the most favourable hygienic conditions. Now, in comparing the new operation with the old, it is unquestionably true that the ordinary mode of resection presents, as M. Nodet remarks, many desiderata. It often leaves the patient in a state in which he is incapable of walking, on account of the imperfect coalescence that has taken place between the cut surfaces. The wound is large, and the danger of wounding vessels considerable; but with the new operation the occurrence of ossification is far more certain: the incisions implicate only the skin and the periosteum, and the more superficially situated structures, bones, vessels, tendons, &c., are interfered with to a much less extent. Moreover, the wound is much smaller, and the occurrence of large openings, from which purulent discharges take place, are much more rare, whilst at the same time the shock to the system is much less.

Again, even if complete ossification do not take place, the ligaments being preserved *in situ* admit of a new articulation being formed, while they materially assist in strengthening, permitting, whilst they limit, movements of flexion and extension that are very favourable to locomotion. Lastly, in young subjects it is not necessary to divide the bones at the same level. Hence this mode of operation gives greater latitude to the surgeon. He can remove all the diseased, and he need remove none but the diseased parts. Hence when the fibula is sound it should be preserved. If, however, the subject is over twenty-five years of age, and it has been necessary to remove much of the tibia, the fibula should also be resected at the same level. Such are some of the principal advantages claimed by M. Nodet for the subperiosteal mode of operating. On the whole we think he has brought together in his pamphlet an amount of evidence in favour of the new operation which will lead to its being adopted in this country.

Clinic of the Month.

Angina Pectoris relieved by Nitrate of Amyl.—A case under the care of Dr. Leishman, reported by Mr. Tracy, presented the usual symptoms of this disease in a very severe form. Soon after admission an attack came on; he was ordered twenty drops of chlorodyne and a turpentine stupe over the chest. No relief being obtained, he was ordered to have every morning one drachm of sulphuric ether and one drachm of compound tincture of camphor, with a little water, and a tablespoonful of whisky every half-hour. Temporary relief followed, but on the following day the spasm returning, five minims of the nitrate of amyl were dropped on a handkerchief and inhaled; almost instant relief was obtained, and the patient expressed himself astonished and very thankful. In about a quarter of an hour the pain returned; the inhalation was repeated, and again with instant relief. In half an hour the patient was suddenly seized with violent and excruciating suffering, which was once more instantly relieved by the inhalation. This patient subsequently died, and the aorta was found dilated and atheromatous, in parts presenting distinct spicula of bone. (See *Glasgow Med. Journ.* Aug. 1869.)

Electricity as an Anæsthetic in Dental Extraction.—An interesting paper has been read on this subject by Mr. Snape before the Odontological Society. He employs Davies and Kidders' patent American electro-magnetic machine, which is placed in one room, and kept in operation by a servant, whilst the wires are brought into the operating room to the operating chair, the extremities of the arms of which are covered with thin metal plates, and a copper wire attached to each of these plates "runs round the chair, to which one of the conductors from the electrical machine is attached, while the other joins on to a flexible metal cord, which during the operation is fastened to the forceps." This last must, of course, be isolated when the patient has taken his seat and his head is properly adjusted; "his hands are placed upon the metal plates which cover the arms of the chair. The forceps being firmly applied, that moment the circuit is completed, and the tooth should be removed as quickly as possible, but without *hurry.*" The forceps must be covered, except at their points, with shellac, to prevent the escape of electricity from their surface. Mr. Snape states he is generally, but not always, very successful, little or no pain being experienced even by those who were perfectly unconscious that electricity was being employed. (See *Trans. Odontological Society of Great Britain*, June 1869.)

Strychnia in Epilepsy.—Mr. Tyrrell, of Great Malvern, calls attention to the value of this remedy in epilepsy, especially in those forms in which anæmia and defective nervous control are prominent symptoms. The majority of such patients are women, and the attack often supervenes with more frequency and severity near a catamenial epoch. Mr. Tyrrell considers that small doses are preferable to large. (See *Brit. Med. Journ.* Aug. 7, 1869.)

The Waters of Carlsbad.—Dr. M'Call Anderson, who has lately visited Carlsbad, speaks highly of it as a watering-place. The springs are very abundant and of alkali-saline constitution, containing much sulphate and carbonate of soda and chloride of sodium. Their temperature ranges from 116° to 165° Fahr. They are not purgative nor even aperient in their action, but they are useful in all cases of abdominal plethora, in chronic catarrh of the stomach and intestines, in which diarrhœa is produced from the slightest causes. But their chief value is in chronic affections of the *liver*, in cases of gall-stones, and in the early stage of cirrhosis. Hence most cases of jaundice due to removable causes are readily cured. Patients labouring under *diabetes* are often greatly benefited by their use, and they are stated by Dr. Seegen to be very serviceable in cases of *gravel*, and in *gouty subjects.* (See *Glasgow Med. Journ.* Aug. 1869.)

Sambucus Canadensis. A New Remedy in Albuminuria.—Dr. M'Nutt gives the details of three cases of albuminuria, one in an old lady of 75, suffering from chronic Bright's disease; a second of a child aged 7, where the albuminuria was probably due to exposure to cold, as she had rheumatic pains; and a third, occurring after scarlet fever. In all these cases a cure was effected by employing an infusion in hard cider of the scraped inner bark of the elder. The only question here is whether the acid cider is not the active agent. (See *Hay's Amer. Journ. of Med. Science*, July 1869.)

Treatment of Lupus Erythematosus.—The scales, according to Dr. Geddings, should be removed by the application of strips of linen soaked in oil, and kept in position by a flannel roller. Then the diseased part may be rubbed with a good lather of potash soap on flannel. If this fail, strong liq. ammoniæ or liq. potassæ may be applied with a pencil made of picked lint, or a solution of iodine in glycerine—℞ Iodinii ℈j, glycerini ℥j, potass. iodid. ʒss; or Rochard's ointment, which is composed of calomel gr. xx., iodinii gr. viij., melted together with the aid of a gentle heat, and triturated with ℥ij of conium ointment. Carbolic acid has been applied with varying success, sometimes effecting a brilliant cure. Arsenic, mercury, and cod-liver oil are generally without influence on the disease. (See *Amer. Journ. of Med. Science*, July 1869.)

Treatment of Acute Rheumatism by Bromide of Ammonium.—In the reports of the Pennsylvania Hospital, Dr. J. M. Da Costa gives the results of a series of thirty cases treated with this remedy, administered in fifteen or twenty grain doses every third hour, well diluted, and omitted at night. No other remedy was used except for quite temporary indications. The mean duration of the attack was 22·5 days; of the attack prior to admission, 8 days; of treatment in the hospital, 14·16 days. The effects observed were that the pulse became slower and somewhat weaker, and the temperature was a little less than the average degree in the disease. The influence on the pain was marked and beneficial. The urine remained acid in most cases, and its quantity was increased; the urates and chlorides were copious, the phosphates variable. Diarrhœa was rare. In 23 out of the 30 cases there were no cardiac complications. Dr. Da Costa is very favourably impressed with the utility of the remedy. As regards its effects on the frequency of cardiac complication it scarcely seems to be of equal value with the alkaline treatment. (See *Hay's Journal of Med. Science*, July 1869.)

A New Surgical Dressing.—Dr. D. Agnew employs a form of paper manufactured in Lambertville, New Jersey, from coloured rags decolorized by chloride of lime. It possesses the advantages of being cheap, highly absorbent, and acting like oiled silk, having one of its surfaces water-tight. (*Ibid.*)

Treatment of Paralysis by Electricity.—In an interesting paper on this subject by Dr. W. G. Smith, details are given of the treatment by electricity of cases of facial palsy, of paralysis from the poison of lead, of paralysis from local injury or pressure, whether it be on the bone or directly on the muscle, and of rheumatic paralysis of the limbs. And he sums up the general principles of muscular faradisation as follow:—1. The current should be directed *locally* to the diseased part. 2. The fact of no visible contractions being at once obtained does not warrant us in neglecting to proceed with the electric treatment. 3. Indirect faradisation (*i.e.* when one electrode is placed over the trunk of the nerve) is generally preferable to direct faradisation (*i.e.* when both poles are placed upon the muscle). 4. The use of painful currents is to be discountenanced, and in no case should a feeling of fatigue be induced in the muscles. 5. The difference in the effect of the same electrical stimulus on different muscles is not due to any inherent variations in their electrical susceptibility, but simply to physical and anatomical considerations. 6. In order to lessen the resistance of the epidermis as much as possible, the skin underneath the electrodes should be kept wet with warm salt water. Lastly, to produce contraction of *individual* muscles, the small pointed electrode should be connected with the cathode or negative pole of the apparatus, and be placed firmly on the skin at the "motor" points or "points of election" (*i.e.* the points of entrance of the motor nerves into the muscles). Dr. Smith further observes that whilst admitting the use of an interrupted *galvanic current* (from a constant battery)—*i.e.* galvanisation is necessary in some cases where faradisation fails to elicit contraction in the paralysed muscles—in the majority of cases the most suitable form of electricity is the primary current (*i.e.* the current from the inner or thick and shorter spiral of an *induction* machine), applied locally by means of pointed conductors tipped with moist leather, by direct or indirect faradisation. The secondary current (*i.e.* the current from the outer or finer and longer spiral) causes much more pain on account of the greater intensity of the current, and the skin of the face, especially in the middle line, is acutely sensitive to electric stimulation. Stimulation of muscles which have regained their proper contractility should be avoided.

Treatment of Chronic Cases of Sore Throat by Nitric Acid.—Dr. Macintosh, remarking on the frequency of sore throat in the spring and autumn, especially in low marshy districts, states he was led to try the effects of nitric acid, of its commercial strength, in those cases which are accompanied by enlarged tonsils, dotted over with white specks, and elongated and relaxed uvula, and also in the foul ulcers of scarlatina and diphtheria. The remedy should be applied with a camel-hair brush, a glass of water or alkaline solution being at hand to gargle the mouth with afterwards. The tongue should be well depressed, and a deep inspiration previously taken to obviate any ill effects from the process. The application may be made once or twice daily. (See *Med. Times and Gazette*, August 1869.)

The Climate of Madeira.—Dr. Ireland, in speaking of the climate of Madeira, makes the following observations:—A very large proportion of cases coming to Madeira are phthisical, nevertheless such are not the cases likely to do the climate most credit. Among those suited for its soft and equable air are inflammatory diseases of the larynx and trachea, where relaxation is not a prominent symptom, chronic bronchitis, slow recoveries from pneumonia, cirrhosis, and gangrene of the lungs. Some celebrated Madeira cures have been cases of these two last complaints. Scrofula and rheumatism may not be expected to do well; and the habit of persuading patients returning to England from the coast of Africa with intermittent or remittent fevers, dysentery, and worst of all liver disease, to land and stay at Funchal, is most objectionable. Such cases do best in England. In Madeira they fall back or make slow recoveries.

On the Use of the Bromides in Epilepsy.—A short paper appears on this subject by Mr. W. B. Kesteven, who has employed the bromides not only in epilepsy, but in laryngismus, convulsions, chorea, and certain nervous headaches, in melancholia and acute mania. Dr. Kesteven remarks that the doses mentioned in works on therapeutics are usually much too small, the proper amount being from 15 to 50 grains, which may be continued for a considerable period, and which are never followed by any injurious effects, unless a certain degree of drowsiness be so considered. Dr. Kesteven gives the details of various cases, and concludes with the following propositions:—1. That by reason of their possessing a special influence on nerve tissues, and upon the vaso-motor nerves, whereby they prevent sudden arterial action, we have in the bromides most valuable remedies for certain affections of the nervous system. 2. That in order to obtain their full therapeutic powers the bromides must be given in large doses, and their use prolonged. 3. That where these medicines are not efficacious to work a cure, their influence is sufficient to diminish the severity and prolong the intervals of epileptic seizures. (See *Journal of Mental Science*, July 1869.)

On the Method of observing the Temperature of the Body.—In this essay Dr. Bæumler, after referring to the statements made in Dr. Aitkins' work, to the effect that in estimating the temperature of the body the thermometer should be allowed to remain in the axilla "not less than three minutes," or when extreme accuracy is required, for five minutes, takes occasion to point out that even these limits are insufficient, and gives a series of experiments in which it is shown that it may continue to rise long after these periods, and he sums up with the following important statement that the time required for a thermometrical observation varies as to the locality in which the temperature is taken. This time is from three to six minutes in the rectum; from nine to eleven minutes for the mouth; and from eleven to twenty-four minutes under the tongue for the axilla (extreme cases excepted). He admits, however, that the time may be somewhat shortened by keeping the arms closed by the side for a quarter of an hour previously, and by warming the bulb of the thermometer to near the point required to be estimated.

Abdominal Puncture in Tympanitis.—Dr. Davey gives an account of a case under the above heading which opens up an interesting question, whether when the peritoneal cavity is distended with air it should be treated as in dropsy, and be allowed to escape by a puncture. We think with Dr. Davey that an affirmative answer may be given. Dr. Davey refers to a successful case that occurred in France in which six punctures were successively made with the result of saving the life of the patient, and it appears to be a common procedure with veterinary surgeons in the case of cows, which are frequently thus affected—a penknife or trocar being introduced between the last rib and the ilium. In Dr. Davey's case, though great relief followed the exit of much fœtid gas, the little patient died in consequence of peritonitis. The peritonitis, however, was not occasioned by the puncture, but by ulceration of the intestines and escape of their contents into the peritoneal cavity. (See *British Medical Journal*, August 21.)

Strychnia in Chorea.—A good report of a case under the care of Dr. Murchison is given by Mr. Bale, showing the beneficial results that may sometimes be obtained from the use of strychnia in this disease. The girl was fifteen years of age, and her left side was primarily affected. There was no history of rheumatic fever; she was placed on ten grains of bromide of potassium three times a day, but in spite of this the right side rapidly became as bad as the left. She became stupid and heavy, and was unable to sleep from the violence of the movements. Sulphate of zinc was given in doses of two grains three times a day without effect. She became worse, when six minims of liq. strychniæ in water were ordered to be taken every four hours, and two drachms of brandy every two hours. Improvement was immediately apparent after two or three doses. The quantity was gradually increased to ten minims every four hours, and in the course of a little more than two months the girl was discharged cured. (Ibid.)

Quinine in Pemphigus.—V. Dieren reports the very unusual occurrence of pemphigus without syphilitic complication. The vesicles made their appearance with sharp febrile symptoms of a quotidian type, the intermissions being very complete. The case was completely cured by quinine in a short space of time.

Treatment of Diabetes Mellitus with Opium.—A case under Dr. Stedman is reported, in which the symptoms of diabetes being well marked the patient was ordered five minims of tincture of opium three times a day, with (as diet) two eggs, two ounces of brandy, two pints of milk, ten ounces of meat, and some bran bread, made from bran soaked in successive portions of milk. The quantity of urine gradually diminished; when, having fallen from sixteen pints to six, a small portion of plum-pudding was eaten on Christmas-day, and on the following day the quantity had run up to eleven pints. He was now ordered infusion of gentian and nitro-muriatic acid; when it fell to seven pints again, and he then commenced the use of opium in the form of pills containing 1½ grain, on which it steadily fell to and remained at 5½ pints per diem. (See *Lancet*, August 21.)

Successful Treatment of Epilepsy with Asafœtida.—In this case, which was under the care of Dr. Pollock, the attacks were violent, and had been gradually increasing in frequency and severity for ten years. Bromide of potassium was first employed, but failing, sulphate of zinc, quinine, and iron were successively substituted. At length half a drachm of tincture of asafœtida with three grains of carbonate of ammonia was given three times a day with the most satisfactory result. (Ibid.)

Extracts from British and Foreign Journals.

Therapeutical Action of the Iodides of Potassium and Sodium.—M. Rabuteau has lately made some experiments on the iodides of these alkalies which have a direct therapeutical bearing. He dieted himself for the space of a month, as far as possible, upon the same kind and quantity of food, and found that he eliminated from 325 to 372 grains of urea daily. He then took 15½ grains of iodide of potassium daily, and found that the quantity of urea daily excreted fell to between 201 and 294 grains. And a similar result was obtained with the iodide of sodium; the diet in both instances continuing unchanged. The absolute quantity of urine discharged was not increased unless, owing to dryness of the throat, more water was ingested. Now, since arsenic taken in small doses occasions the same changes in the urine, and both this and the iodides cause an increase of the appetite and a tendency to the deposit of fat in the body, M. Rabuteau proposes that they should be employed in combination where no counter-indication exists, as remedial means, especially in phthisis, in intermittent fevers, and articular rheumatism, whilst they may also be combined with well-known specifics, as quinine, &c. In gout iodide of potassium in large doses is of value on account of its solvent powers on uric acid. (*Centralblatt,* 29 Mai.)

Action of Salts of Selenium and Tellurium.—M. Rabuteau has also recently investigated the action of the oxygenated compounds of selenium and tellurium. Both appear to be very poisonous. The injection of a solution of seleniate of soda or potash into the veins of a dog caused it to be surrounded by an atmosphere of insufferably mephitic odour, the acid being apparently reduced to the condition of selenuretted hydrogen in the body; vomiting and diarrhœa were at the same time induced. It seemed also to have a specific action on the heart, causing it to beat with great feebleness. This last effect was, however, absent when seleniate of soda was employed, the frequency of the pulse and respiration augmenting, whilst on the other hand the action of the poison seemed to concentrate itself on the intestines. After death extensive ecchymoses were found in the mucous membrane of the large intestine. Death occurred within five days. It was noticed that the heart of the animal continued to beat for three-quarters of an hour after death, and when the temperature had sunk to 77° Fahr. The salts of tellurium quickly induced vomiting, frightful dyspnœa, and anæsthesia, and death occurred in a few hours. On examination, the whole of the large intestine was found congested and ecchymosed, as were also the liver, spleen, lungs, and kidneys, the latter appearing quite black. The right ventricle was filled with blood, in which numerous prismatic crystals were noticed.

New Mode of preparing Medicines for the Army or Navy.—Dr. Almén, of Upsala, recommends, in order to save space, that various remedies should be prepared for the above services in the form of gelatine leaves or lozenges. The gum, whilst warm, should have a little glycerine added to it, to prevent its becoming hard. The remedy required is then mingled carefully with it, and the whole poured on a flat table, and when cool divided into masses of equal size. This mode of preparation has the advantage that it preserves the drugs to a considerable extent from the injurious effects of external agents, and checks, or altogether prevents, internal changes. (*Centralblatt*, 19 Juni.)

Experimental Study of the Physiological Effects of Conicine.—In a very long essay on this subject giving the results of a large number of experiments, M. Casaubon states that the active principle of conium is a liquid alkaloid termed conicine, which is chiefly contained in the seeds. Its action is that of a poison paralysing the nervo-motor system. It effects a certain alteration in the blood, which circulating through the body produces different results according to the quantity absorbed. It either increases or produces no alteration on the proper muscular irritability, and it diminishes, if it does not altogether abolish, the motor force transmitted by the motor nerves. In small doses conicine disturbs the function of the various organs, but when taken in poisonous doses, it suspends them after having modified the gases of the blood. When slowly consumed it alters the tissues. Locally applied conicine produces anæsthesia of the peripheric extremities of the sensory nerves. In poisonous doses it first produces peripheric hyperæsthesia by exalting the excitability of the spinal cord, and ends by suspending the functions of the sensory nerves. The exaltation of the functions of the spinal cord, which is only transitory, is a consequence in the first place of its diminishing the supply of blood to the organ, and subsequently of its reducing the amount of oxygen conveyed by the blood. Conicine, moreover, produces sighing and sleepiness, which are referable to the causes just mentioned, but in particular to the direct action of the poison on the medulla oblongata. In regard to the extremities of the ganglionic nerves, distributed to the contractile fasciculi of the vessels, and the smooth organic fibres, conicine produces first an exalted action in them, owing to excess of carbonic acid in the blood, and secondly a diminution of action, owing to the want of oxygen in the blood.

In small doses, therefore, it produces contraction of the smaller arterial branches, but has no marked effect on the pulse in the radial artery; in poisonous doses it produces relaxation of the vascular walls, the pulse becoming soft and compressible. In small doses conicine augments the vigour of the cardiac contractions, and perhaps retards them; but when poisonous doses are taken, after primarily augmenting their force, it accelerates them, and finally renders them intermittent, irregular, and slow. In accordance with this action on the circulation the temperature of the body is first augmented and then depressed. Conicine modifies the gases of the blood by volatilizing in them, as a result of which oxygen is not absorbed as before, whilst carbonic acid accumulates. Applied locally in small quantities, conicine diminishes the secretions of the eye, but has no effect upon the pupil; in larger doses, however, it appears to dilate the pupil and to diminish, after having previously augmented temporarily, the secretions of the eye. Besides other effects, it diminishes the accommodative power of the eye. In poisonous doses conicine augments the salivary secretion, and in the first period produces a similar effect on the renal secretion. Its action on the kidneys and liver, however, requires further investigation. It is to be noticed that the activity of the plant is very much dependent on the climate of the place where it is grown, so that whilst English grown conium is so feeble that it has scarcely any action, and that grown in the Crimea possesses so little activity that the peasants eat it, it is so active in the Isle of Ceos that in view of its immediate and rapid action, all who have attained the age of sixty are poisoned with it in order that food may be left for the remainder of the population. About 4 milligrammes (or ·15 grain) of conicine are sufficient to kill a frog, and according to Orfila 10 or 12 drops prove fatal to a large dog.

The Action of Papaverine in Mental Diseases.—Dr. Stark, director of an asylum at Kennenburg, takes up this subject in consequence of the researches of Leidesdorf and Bresslauer which were mentioned some time since in the *Practitioner*. He employed the papaverine of Merk, obtained directly from the laboratory of that chemist. He comes to the conclusion that Leidesdorf and Bresslauer were justified in the opinion that the nutrition of insane patients is increased in consequence of the greater amount of quiet and of sleep which they enjoy. It seems evident that papaverine is an efficient and a trustworthy hypnotic in many cases of insanity. In eight out of twelve cases on which Stark experimented the desired sleep and tranquillity were more or less distinctly produced. There were great variations in the time intervening between the administration and the operation of the drug. The average of Stark's experience gave about six or seven hours as the interval before active operation, but this is liable to very large variations. As the effect of the drug is slow in coming on, so it appears to extend over a longer period; thus, it is common for the patient to feel sleepy on the day after the dose, and to sleep equally well the second night as the first. In several cases the impression produced on the observer was that papaverine by no means acted so *directly* hypnotically as large doses of opium or morphia, but rather removed the obstacles to sleep. Papaverine produces a very distinct impression on the pulse, in many cases slowing it considerably. It appeared to have a more distinctly quieting and soporific effect in maniacal than in melancholic cases. In nearly all cases in which papaverine produces sleep and quiet it strongly contracted the pupil; but the latter effect was never observed in any case in which the other effects of papaverine failed to be produced; and in no case was there only myosis and slowing of pulse without sleep. It appears as if there were a certain causal connexion between the hypnotic effects and the slowing of the pulse; and Stark cannot avoid the suspicion that papaverine exerts a paralysing influence upon the cilio-spinal and vaso-motor nerve-centres. Whether there be any connexion between this influence and the production of sleep, he cannot at present decide. Stark confirms the statement of Leidesdorf and Bresslauer, that papaverine never causes excitement nor constipation. In very large doses it seemed to produce nausea and sickness. It is only very rarely, and after a prolonged employment of the drug, that papaverine loses its effects upon the system. (*Allgem. Zeitsch. f. Psychiatrie*, xxvi. 1 and 2.)

Another and more elaborate research on the action of papaverine has been made by M. Woldemar Baxt, of St. Petersburg. The author reconsiders the whole subject of the action of the various opium alkaloids. He comes to the following conclusions:—1. The whole group of opium alkaloids taken together constitute a series of agents with two specially characteristic actions—*narcotic* and *tetanically convulsive*. 2. Each individual alkaloid possesses one or the other of these characteristic effects exclusively, or else a blending of the two opposed actions, in consequence of which the one or the other becomes prominent, while the other is more feebly pronounced. 3. The first place as a pure *narcotic* must be given to papaverine. It is followed by morphia, narceia, codeia, &c., with constant diminution of the narcotic character of the influence, and continually increasing convulsive tendencies, which, in thebain, reach the level of complete tetanus, indistinguishable from that produced by strychnia, except by the size of the dose required. 4. Thebain holds the highest place as a convulsive, and following it in diminishing order come porphyroxin, narcotine, codeia, &c., with gradual loss of convulsive and gain of narcotic power. 5. Thebain is quite similar in its action to strychnia; and as larger doses are required, it may be that we shall come to employ it in the cases where strychnia is now used, on account of its less dangerous qualities. 6. Papaverine, while producing the same effects as morphia, has the preference over the latter in cases where the latter cannot be used on account of its unpleasant after-results, none of which can follow papaverine. 7. Papaverine and morphia, acting quite oppositely to strychnia and thebain, may be employed with advantage in cases of poisoning with the latter substances. 8. Papaverine and morphia act first on the peripheral ends of the sensory nerves; they can therefore be employed as local anæsthetics in neuralgia, and in various neuralgias without central lesion. 9. The muscles and the motor nerves suffer no change in function from the action, either of papaverine or morphia. 10. Papaverine and morphia especially diminish reflex excitability, for they first affect the peripheral ends of the sensory nerves, and partly, also, perhaps the sensitive fibres in their course, and probably also the central brain elements. 11. Autochthonous reflex inhibition centres are not affected recognisably by either papaverine or morphia. (*Archiv f. Anatomie u. Physiol. Reichert u. Dubois-Reymond*, 2, 1869.)

Curara in Tetanus.—In the *Union Médicale*, 75, 1869, will be found a very interesting summary of fresh cases of this kind. It brings together a good many cases which we had not hitherto noticed. The first is a case of so-called idiopathic (*i.e.* unexplained) tetanus under the care of Signor Capozzi. The curara was injected subcutaneously; about $\frac{1}{8}$ grain was at first injected; this was increased to $\frac{1}{2}$ grain twice a day. The expenditure of about 5 grains of extract completed the cure. A second case, under the care of Dr. Morra, was treated with injection of ^{1} grain of curara; fifteen days sufficed for cure. A third case was treated by Dr. Nobis: about 12 grains, subcutaneously injected in small doses, completed the cure. Dr. Gherini treated the fourth case, which was traumatic: 64 injections, varying from $\frac{1}{6}$ to $\frac{1}{2}$ grain of curara, quite cured the patient. [Curara, Calabar bean, and nicotine, subcutaneously injected, seem the three really hopeful means of combating tetanus.—ED. PRACTITIONER.]

Creeping Paralysis, of Syphilitic Origin, cured by Anti-syphilitic Treatment.—One more instance of the fruitful consequences of intelligent diagnosis is afforded by the record of a case treated by M. O. Bayer. The patient had suffered for about four years from constitutional syphilis, easily checked by appropriate treatment. The cure was commenced by inunctions of mercurial ointment, followed by large doses of iodide of potassium, which produced great effect; faradisation of the affected muscles and subsequent tonics completed the cure. A syphilitic tumour of the scalp disappeared *pari passu* with the subsidence of the paralytic symptom. (*Union Médicale,* 75, 1869.)

Immense Dose of Croton Oil taken without fatal Effect.—Nearly 47 minims of croton oil were taken by mistake by a child of six years old. The girl complained of the disgusting taste, and the heat of throat which followed it. Soon afterwards there was great pain at the epigastrium, and violent vomiting for three quarters of an hour. The child then slept for four hours, and on waking asked for food! Soup was given to her; she felt no more pain, although she passed two abundant liquid stools. No irritative symptoms were to be found on the day following. It appears that the oil (which was very good) must have failed to produce more severe effects in consequence of the abundant vomiting. (*Gaz. des Hôpitaux,* 74, 1869.)

Poisoning by Phosphorus successfully treated with Turpentine. — Dr. Sorbets, of Aire (Landes), reports a very interesting case which goes to confirm what has already appeared on this subject. A woman picked up some pieces of lard which her husband had laid as baits for rats (having placed a head of a lucifer-match in each), and added them as thickening to some soup for the evening meal of the family. Symptoms of poisoning presented themselves in three persons who ate the soup. Dr. Sorbets prescribed for each person about 2 drachms and a quarter of turpentine in 13 ounces of a mucilaginous mixture: to be taken in 4 doses, a dose every quarter of an hour. The prompt administration of the antidote prevented the occurrence of any very serious symptoms in these cases. The patients suffered from rather severe pains in the belly; they held their hands to the pit of the stomach, and felt much tenderness on pressure in this part; there was a bitter taste in the mouth, and an alliaceous odour in the breath. The father only felt a distinct inclination to vomit. No graver symptoms occurred. There were neither vomiting nor prostration, no convulsions, and no urgent thirst; the pulse was not more than 88 in the father, 84 in the son, and 80 in the mother. It is evident that the early administration of the antidote prevented what would otherwise have been the very serious toxic results of the phosphorus. (*Gaz. des Hôp.* 65, 1869.)

Bromide of Potassium and its occasional Toxic Effects.—During the last week our attention has again been drawn to the powerful effects which bromide of potassium occasionally produces in destroying the faculty of memory. This effect is one of the most singular things known in the whole range of toxicology. It is most formidable *in appearance*, more than one patient under our care having appeared, for a time, almost idiotically forgetful. Yet this symptom *always promptly disappears on the discontinuance of the drug*, as do also sundry symptoms of spinal paralysis, noted especially by Dr. Hammond of America, and in a few instances by ourselves. Let us take the opportunity to state here that we have never seen any of the *serious* symptoms connected with the heart which have been attributed by some persons to bromide of potassium. We suspect that where they have occurred these symptoms are due to some impurity of the salt employed. As we have said elsewhere, an independent analysis of the commercial specimens of the bromide is very desirable.

Treatment of Elephantiasis Arabum by Ligature of Vessels.—Dr. G. Fischer collects twenty-one cases in which this treatment was adopted. In four cases the external iliac was tied; in fourteen the femoral (in one of these cases both femorals); in one the tibialis antica; and in one case the two common carotids. There were eleven cures (but only four of these persisted for a year or more); two were improved; seven were failures, in one of which digital compression ultimately proved successful. Of the complete failures there was one with no result, three with relapses, one case of gangrene, and two cases (both fatal) of pyæmia. Fischer explains the therapeutic effect of the ligature by its removal of arterial pressure; it is this pressure which prevents the absorption of effused matters, and keeps up the swelling, and its removal allows the natural curative processes to come into play. How rapidly these may effect a cure was shown by cases in which a diminution of 8, 10, or 13 centimetres in the size of the swellings was observed by the fifth day after ligature. Fischer thinks that the first hopes excited by the ligature treatment were excessive, and that it is attended with greater dangers than was then supposed. For anæmic, cachectic patients, it is best to try methodical compression first. (*Virchow's Arch. Centralblatt,* 17 Juli.)

Treatment of Ophthalmia Neonatorum.—Mr. Soelberg Wells observes in a lecture delivered at Moorfields, that the first indication is cleanliness; the infant's eyes should be washed immediately after birth, and the greatest care be taken that the same sponges, cloths, and water are not used for the mother and child. In the early stages he recommends a solution of alum or sulphate of zinc containing one or two grains to the ounce, when more advanced a solution containing two grains of sulphate of zinc and four of alum, and once a day, after washing, a drop of a four to ten grain solution of nitrate of silver, or the direct application of the mitigated nitrate of silver. When much swelling is present, free but superficial scarification may be practised, and cold compresses applied; when the cornea is cloudy, a solution of atropine should be instilled; and when an ulcer threatens to penetrate, the cornea should be pricked by a needle to evacuate the aqueous humour. If there be prolapsus of the iris, the portion prolapsed should be first pricked and then snipped. If the ulceration be very large, with the lens presenting beneath the cornea, an incision should be made and a compress applied. (*Lancet*, Aug. 21.)

Oil of Turpentine as an Antidote to Phosphorus.—M. Audant relates the case of a woman who broke off the heads of a dozen lucifer matches, poured hot water on them, and drank the fluid. An hour afterwards the breath had the characteristic odour of phosphorus; she complained of pain in the belly, stiffness of the joints, &c. She was ordered thirty drops of oil of turpentine in an emulsion of quina every quarter of an hour, to be repeated four times. In the course of two hours improvement occurred; two or three drachms of magnesia were then administered to procure action of the bowels, and the following day the turpentine emulsion was repeated in similar doses. Two months after slight and occasional gastric disturbance was the only remaining symptom. (*Bull. Gén. de Thérap.* 1869, p. 273.)

On Albumen in the Urine.—Mr. Henry Lee calls attention to the occurrence of this symptom in various conditions in which no evidence can be obtained of disease of the kidneys In some instances this results from disease of the bladder or prostate. He records a case, however, in which a gentleman suffered from a temporary attack, respecting which very unfavourable prognoses were given, but from which he perfectly recovered. Many years afterwards, on post-mortem examination, a very vascular knot caused by intussusception of all the coats of the right ureter was found, to which the former attack of albuminuria had probably been due. He records other and remarkable cases in which albumen was present in considerable quantity in the urine as a result of co-existent or previous surgical disease, or following an operation not affecting the urinary organs.

Notes and Queries.[1]

Iodide of Potassium in Itch.—Dr. H. B. Spencer, of Oxford, sends us the following note:—"I wish to call the attention of the profession to the great utility of iodide of potassium ointment in the treatment of scabies. This disease has prevailed very extensively in Oxford lately, and I have been over and over again requested to cure it without giving sulphur ointment or anything that would smell or stain. Iodide of potassium ointment fulfils these conditions completely, and it has been in my hands a cure *as certain* as sulphur ointment. There is no need for the patient to go to bed, but it should be well rubbed in all over the body night and morning for a few days. Dr. Fox mentions this use of it in his work on skin diseases, but it is not named for this purpose in Dr. Ringer's work on therapeutics, nor is it so generally known by the profession as it deserves to be."

Oil of Yellow Sandal Wood.—A surgeon writes to us from Glasgow as follows:—"Has the above remedy any virtues? In some of my cases it has failed, and several of my *confrères* have informed me that it has done likewise with them. The names of the gentlemen recommending it are well known to the profession as honest workers, but may they not be enthusiasts? As far as I can find, Dr. Thomas B. Henderson, of Glasgow, introduced this oil in a paper in the *Glasgow Medical Journal*, April 1865, and informs us that in India the powder of sandal wood is given in milk for gonorrhœa; of the oil, the dose he recommends is 20 to 40 minims, with some aromatic. Next we have Dr. H. S. Purdon, of Belfast, writing on the oil of yellow sandal wood, *Medical Mirror*, September 1866, who differs from Dr. Henderson in one or two particulars, but recommends it combined with oil of cubebs and copaiba. The next writer is Mr. Berkeley Hill, of London, *British Medical Journal*, July 6, 1867, who enters into more details, and reports nineteen cases of various duration, but on the whole thinks well of the remedy given with liquor potassæ. And lastly we have an article from Dr. H. W. Beach in the *Boston Medical and Surgical Journal*, November 1868, who informs us that in ordinary cases five days are sufficient for cure, and it is to be recommended in gleet. This gentleman relates over 100 cases. He has also tried the white and red oils, but they are not so effective as the yellow, the best preparation of which is imported from Bombay. Dr. Beach gives from twenty drops upwards on lump sugar. On the above remarks I offer no comments. Can any of your readers record their experience and enlighten me?"

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[1] The Editor, being desirous of making this department a useful medium of communication between practitioners, will be glad to receive short notes on theoretical or practical points in therapeutics,—brief jottings on those numerous queries which suggest themselves from time to time to a medical man as he "goes his rounds," but which he has neither the time nor, in some cases, the opportunity of answering. The Editor does not pledge himself to reply to every question addressed to him, but he hopes to make the "department" the means of supplying the information required; and this he can only effect by the hearty assistance of his readers.

STRYCHNIA AS A REMEDY IN NERVOUS HYPERÆSTHESIA.—Professor Mackey, of Birmingham, sends us the following note:

"The following case will be found interesting as illustrative of the distinct remedial action of the medicine: its publication is suggested by one bearing the same title in the *Practitioner* for May last.

"Mrs. H——, æt. forty-four, in January 1868, stated that twelve years before she had first felt numbness in the fingers of both hands, but had been able to bear with it until two months ago, when it had begun to get much worse without apparent cause. All fingers are affected, but most the second and third. It is especially about the nails, but often extends up the forearm to the elbow. It becomes worse at night, and lately pain with it has prevented her sleeping properly: if she sleeps for a time the hands involuntarily clasp themselves, and she wakes feeling a heavy numb aching, sometimes tingling, and such stiffness that she can scarcely draw them apart; rubbing relieves; there is no loss of ordinary sensation, and their general feeling is one of heat, never of cold.

"The patient is still regular, is well nourished, not 'nervous' looking; but her father is always under a 'nervous fear,' and *his* mother drowned herself when he was a baby. Patient has had ptosis of the right eyelid, and occasional spasmodic closure of it, for some years; sciatica four years ago; often has flushings of the left side of face and neck, and œdema of the left leg. No albuminuria or sign of disease of vascular system.

"*January* 22.—Passed a gentle electro-magnetic current from one hand to the other, for ten minutes; it was felt acutely. Began ℳiv of liq. strychnia, B. P., ter die sum.

"*January* 23.—Slept well, and has been free from pain and partly from the numbness ever since the application and the first dose of medicine.

"*February* 1.—Has continued medicine and magnetism once daily and is much improved. Desirous to see which remedy was the real one, I directed her to omit the strychnia and use the current only for next seven days: then she reported that she had had several severe returns of hot aching pain and numbness, traceable perhaps to exertion.

"*February* 7.—To omit the magnetism and resume the liq. strychnia, ♏iv.

"*February* 14.—Still waked sometimes with aching numbness, but the pain is not nearly so bad: the numbness seems to pass off when she gets about her work, and is scarcely felt towards night. Expresses much confidence in the medicine: it has no effect on bowels. Increase dose to ♏vj.

"*March* 17.—Has continued treatment, and considers herself so well as to wish to omit it.

"*July* 1869.—Up to this date she has remained fairly well: some numbness returned within a short time after last visit, and has remained more or less, but has not prevented her from washing and sewing, and she has had *no recurrence* of the severe pain."

Sulphurous Acid for Throat Diseases.—A country practitioner asks us, which is the best way to apply sulphurous acid in cases of ulcerated throat? There can be no doubt in our mind that the form of spray is best. Strong gargles of sulphurous acid are not well borne. But in the form of spray even the pure acid can be borne, and produces extraordinary benefit in most forms of low ulceration of the throat. We have been really very much astonished lately at the extraordinary effects of this remedy. Compared with every other kind of application in that low form of ulcerated sore-throat which one calls "malignant," and which occurs sometimes in a distinctly epidemic form, the pure sulphurous acid spray shows to great advantage. And even in diphtheria we believe that its use at a very early stage would do much to prevent or diminish the formation of false membranes. In fact, the local treatment of diphtheria is rapidly assuming greater importance and a more assured basis. Injection of sulphurous acid spray to check the *formation* of false membranes, and (failing this) injection of lactic acid (*à la* Bricheteau) to dissolve false membranes when they have been formed, are the most important indications which modern science affords for the treatment of this terrible disease.

Dr. Beddoe, of Clifton, writes to us:—"I see you have been discussing the therapeutic use of muriate of ammonia. I have employed it for a good many years with the object of removing local congestions and hypertrophies. Chronic engorgements of the uterus have seemed to me particularly amenable to this agent.

Slight hypertrophies of the cervix, with more or less of uterine leucorrhœa, have disappeared under treatment by it either alone or in combination with some preparation of bark. When it is useful in amenorrhœa, I believe it to act in this way. I generally give 10-grain doses. Most patients take it well enough; but in a few cases it disagrees, and causes vomiting." [We regret that this note was accidentally omitted from the August number.—Ed. Practitioner.]

Dr. Macleod of Ben Rhydding.—This gentleman has written to us complaining of our late review of his book as unfair in tone. We have only to remark that in the first place the Editor of this journal, who was the author of the review, is quite unacquainted with Dr. Macleod, and could have had no possible prejudice against him. And secondly, that we are very glad to correct, on Dr. Macleod's authority, the statement, which we had made in good faith, that Dr. Macleod seemed to be a homœopathist. It appears that this is not the case, and we are glad to correct this error, and to repeat that we have not questioned Dr. Macleod's practical ability in the treatment of disease. We simply criticised the scientific tone of his book.

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[1] Any of the foreign works may be procured by application to Williams & Norgate, of Henrietta Street, Covent Garden, W.C.; or Messrs. Dulau, of Soho Square, W.C.

THE PRACTITIONER.

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Original Communications.

ON THE TOPICAL TREATMENT AND DRESSING OF WOUNDS.

BY JOHN WOOD, F.R.C.S.

Examiner in Anatomy in the University of London; Assistant Surgeon to King's College Hospital.

A VISIT to the chief metropolitan and provincial hospitals of the United Kingdom will, perhaps, in no respect attract more of the surgeon's attention than as regards the great diversity of the local applications to, and methods of dealing with wounds, both accidental and operative.

Here, if anywhere, custom, habit, and empirical eclecticism hold full sway, and the most opposite plans may be justified by reasoning more or less satisfactory. In the practice of a few old-fashioned surgeons, the method of treatment by unguents of various kinds is still adhered to. In many of the London hospitals the Edinburgh practice of cold or warm water dressing is carried out in its entire simplicity; while, in certain cases, the time-honoured method of poultices still keeps its clammy sway. Irrigation by cold water is also extensively employed. In some institutions dry lint and charpie are prevalent, and in one well-known provincial hospital this last rag has even been dispensed with, and the absolute nudity and exposure of the wound to the air justified by argument, and, what is better than this, by a certain amount of success. The total disregard of atmospheric influences upon which this practice is based stands in curious and effective contrast to the carbolic acid method, first employed extensively as a local application in Paris, but more lately brought into prominence in this country through the advocacy, by Professors Syme and Lister, of its virtues, when applied with a view of totally excluding by chemical action the noxious principles supposed to be present in this circumambient fluid.

The idea that noxious, invisible organisms present in the air, and ready to multiply on the first *nidus* which presents itself, are frequently the causes of mysterious and otherwise inexplicable diseases, is gradually but perceptibly modifying the theory and treatment both of medical and surgical diseases, and to it is evidently owing the plan of carbolic treatment just alluded to. Like all new theories, it is apt to be pushed, no doubt, by ardent advocates beyond its legitimate limits, and is taken to explain all kinds of phenomena, to the exclusion of the older, and in many instances more reasonable, explanations. And this is the danger which besets this theory at the present time. It is from its friends that it has not the least need of being defended.

To the philosophic observer of the fluctuating tide of medical theories, nothing is more curious and interesting than to compare the extravagant laudations and impossible expectations of some of its supporters, with the contemptuous scorn or indignant denial of its merits which are to be found among many experienced men. The truth may, and doubtless does, lie somewhere between the two extremes.

Atmospheric influences do most certainly operate upon wounds and sores, but these do not explain many of the phenomena witnessed in them. There are other agencies at work, in the constitution of the patient and in the character of the injury, for which the extreme supporters of the carbolic putty treatment do not seem to make sufficient allowance. Thus by ignoring, or by not making provision for the latter, they endanger the success of the treatment directed against the former. And this seems to be peculiarly the case with the carbolic putty dressing, as applied to large abscesses or compound and comminuted fractures, for which the hermetically sealing up by the putty application does not seem to be at all suitable, but has, in many very experienced hands, led to the most deplorable results.

Pus may and does form in the interior of the body, totally separated from atmospheric influences. Inflammation and mortification do occur in deep-seated parts unoperated on by this cause. And the occurrence of these may take place under a putty covering as well as elsewhere. And their proper recognition and treatment by free evacuation the putty method tends to prevent. Hence the frequent disappointment in its results, even when applied in the most careful manner.

The same objection may apply, though less forcibly, to the plan of no dressing at all.

The tegumentary coverings, being highly vascular and active in reparative and adhesive processes, often heal when divided more quickly than the deeper seated parts, and the glue-like formation of plastic lymph often prevents the escape of morbid material effused in the less active or more extensively injured tissues. To this the older surgeons gave the name of "false healing," which is still retained in the vocabulary of laymen, and by many professional men. It happens in many cases of rapid healing of stumps after amputation, and demands a free opening for its treatment. Exposure to the air promotes its occurrence, and the formation of a scab often conceals that of pus more deeply seated.

The latter plan is furthermore open to the objection that the wound is liable to become more speedily affected by all atmospheric changes of cold and heat, dryness and moisture, and to electrical and other conditions promoting rapid decomposition, as well as to infection from other sources. It shares, however, with the carbolic sealing-up method the advantage of being more free from the contagion carried by the hands of dressers, by lint or by sponges, and by the water employed in dressing. Much of the success claimed for both these plans appear, from experiments made by the author in the surgical wards of King's College Hospital, to depend upon the healthy or unhealthy condition of the hospital, or of the general atmosphere where the experiments were being carried out. It was found that, at times, all the various and dissimilar plans carried out contemporaneously were pretty nearly equally successful in parallel cases—which did not involve sloughing; while, at other times, all were nearly equally unsuccessful in promoting speedy healing. It was found, in short, that atmospheric influences act generally more powerfully upon the whole constitution and condition of the patient, than upon the wound or sore locally, and operate from within the patient's system for good or for evil.

Many of the trials of these two methods have been made in country places under all the advantages of pure air and water, and their results have been, perhaps, owing mainly to this cause.

As the air may carry infection to open wounds and sores locally, so undoubtedly may water. In the simple water-dressing, the liquid employed is often, nay usually, exposed for hours or days to the burdened atmosphere of the ward or sick chamber, and affords the moisture favourable for the propagation of organic or simply chemical decompositions. And this seems to be a real objection to the apparently cleanly process of simple water-dressing in the wards of an hospital. And of course the liability to these changes is increased by warmth, either from the weather, or artificially produced in the water. Or, on the other hand, as the history of cholera and typhoid fever shows, the water may be infected at the very source from whence it flows. Still more forcibly do these objections tell against the use of warm poultices under circumstances favouring these kinds of infection. In addition to the disadvantage of promoting decomposition and infection by warmth and moisture, they possess the property of fermentation and of promoting catalytic changes peculiar to their starchy and other elements. The impetiginous pustules frequently following the continued use of poultices prove the acrid and irritating effect of these changes upon the skin, especially in delicate persons. It does not seem to be clear whether the chemical changes which take place during the decomposition of poultices are favourable or unfavourable to the developmental changes of the lower organisms; but it would seem clear that the retention by means of poultices of blood and discharges undergoing rapid decomposition under the influence of warmth cannot produce effects favourable to the healing of wounds. The same remark applies with almost as much force to the ordinary load of warm or cold water dressing; saturated with decomposing masses of blood or pus, it affords a sure *nidus* for putrefactive changes.

The proper employment of poultices and water-dressing seems to be then in those cases where emollients are required to subdue inflammation, soothe irritation, and favour the progress of suppuration previous to an actual solution of continuity of the surface. In such cases a warm soft poultice or water-dressing frequently changed is of real benefit. But when an open sore is formed, producing pus in any quantity, or where sloughing is present, such applications are not the best that can be used.

The use of ointments, formerly in much vogue, is at the present time very limited. Their liability to become rancid, and to be mixed with, and tenaciously to retain, the flying dust and putrefactive particles of the ward and sick-room, has been felt to be an objection. They have also the disadvantage of leaving a good deal of smeary dirt upon the wound, to which foreign particles tenaciously adhere; and this is often very difficult to remove and cleanse. By skilful and judicious use and care these objections may be very much avoided.

When adhesive plaster is used to bring the sides of the wound together, or to maintain pressure upon a particular place, the application of a narrow strip of lint, covered with simple dressing over the plaster at the point where it crosses the wound, prevents irritation by the hard edges of the plaster, and promotes its easy removal.

In old sores ointments have a certain facility of application by the patient himself, which render them of great use in outdoor hospital practice. They prevent false healing and premature scabbing, which is apt to interfere with beneficial progress in cases not submitted to constant supervision. The admixture of chemical disinfectants and of stimulating substances with this form of dressing is easy. The former tends to prevent the decomposition and organic changes to which fatty as well as aqueous substances are liable, and the latter may be required from the condition of the sore.

There can be no doubt that under certain conditions the chemical or oxidizing action of the atmospheric air is hurtful to an injured surface, apart from all theoretic considerations of infection or poisoning. This seems to be especially the case in burns, scalds, and extensive denudations of surface. Hence the relief and comfort experienced by covering the exposed nerve-fibrils by an impermeable coating of collodion and castor oil, and by the application of cotton wool and carron oil. In ancient times the application of oil to sores was very much more practised than in modern times. It is of great value when used to cover from the action of the air the eruptions of the various exanthemata. In hot weather, and in hot climates, much of its efficacy is owing to its deadly effect upon the life of insects, which crowd about an open sore, and deposit their eggs by the same instinct or choice of a site favourable to development which determines the formation of the lower organic forms also.

Both the latter considerations militate fairly against the plan of open exposure of wounds to the air.

Balsamic tinctures were also formerly a favourite application —the "Friars' Balsam" (Tinct. Benzoin co.) having acquired a famous reputation for healing recent sores. We do not nowadays, I think, sufficiently estimate the effect of aromatic gums in excluding the air, arresting putrefaction, and overcoming the smell arising from all open sores, which attracts flies to deposit their eggs. In some of these cases a mixture of olive oil and Peruvian or Copaiba balsam has been found of great effect as a stimulus and protection to a sloughy surface. In very hot, moist weather a wound may become fly-blown in a few hours, in spite of the ordinary care and cleanliness.

Upon the whole, then, after a review of these different methods of dressing wounds, it seems that any sealing up or permanently covering of a deep wound does not protect the patient from the evils of deep-seated inflammation, suppuration, or mortification, which the nature of the injury or the condition of his constitution (permanent or temporarily induced) may bring about, notwithstanding that it may be quite effective in excluding injurious external agencies. The retention of the noxious matters formed under these conditions is, on the other hand, decidedly injurious, leading to burrowing of matter, deep abscesses, and extension of inflammation, to the degree of causing in many well-authenticated cases the loss of the entire limb, and the endangering of the patient's life.

The former objection applies, though less forcibly, to the practice of exposure to the air, leading to the formation of a scab or false healing by inspissation of the fluids effused from the vessels. The latter plan is also liable to the full and unrestrained force of local infection from the air. An argument in its favour has been drawn from the advantages of the *light*, as well as the *sweetness*, thus obtained. To this it may be said, however, that most of Nature's most favourable renovating processes are carried on in her dark laboratories in the interior of the body, and that, *à priori*, one would say that light would be calculated to interfere with, rather than to promote the reparative influences, while *sweetness* can be equally effectively obtained by chemical agencies under cover.

The *desiderata* which we seem to require in an application calculated to be the most generally useful to deep wounds and suppurating sores, are, a liquid form, giving us all the emollient advantages of pure water,—containing an agent destructive to all the germs of low organisms and of insects, not injurious to the healing process, but which shall be permanently held in solution, and capable of combining with chemicals possessing other desirable properties when applied to wounds.

No other substance combines so many of these useful properties as *carbolic acid*, whatever may be thought of its disadvantages when used in the way advocated by Professor Lister. Being soluble in water to an extent sufficient to act beneficially, and yet not enough to be injurious, the only drawback to its use as a simple lotion or solution lies in its great volatility and the looseness of its aqueous combination. After an hour or two of exposure to the warmth of the body, the carbolic lotion loses altogether the smell of the active agent.

To a considerable extent this objection applies to the solution in oil also. This again may be made so strong as to exercise certainly a destructive effect upon the newly-formed granulations, and, often, to prevent their formation altogether;—while a dusky inflammation of the surrounding skin is a common result of a direct contact of carbolized oil or putty, combined in the proportion of one in four. Applied to sloughing and phagedenic sores, a combination of carbolized oil with the spermaceti or resin cerate, is an extremely useful application. It sticks close to the sore, effectually excludes the air, prevents all local infection and organic developments, and stimulates the failing processes of the part, while permitting easily of the escape of the discharges. The effect of carbolized applications in diminishing and destroying suppuration, is one of the most wonderfully striking properties of the agent, and this alone should convince us of its capabilities and antipyæmic properties when applied judiciously. It is the same power, no doubt, which operates also, when in stronger doses, in deterring the formation of granulations. The proper way of using it is evidently so to proportion its strength and combination as to obtain the beneficial and avoid the injurious effect. Most surgeons will, I think, now admit that suppuration is a wasteful and debilitating loss of cell force or plastic formation, which would be better utilized in building up granulations. It is certainly looked upon with satisfaction as the evidence of a favourable crisis in some phlegmonous inflammations. This, however, is only the concomitant result of an advantageous change in the morbid processes, and cannot be estimated as in itself beneficial.

The advantages of carbolic acid may, I believe, be best obtained by its combination with other metallic salts usually employed as stimulants, astringents, or detergents, to wounds and sores. The acid combines readily in the shape of a soluble and permanent double salt with the sulphates of zinc, copper, and iron, and affords a very convenient form of lotion, which retains in combination the volatile agent until liberated by the slow disintegrating action of the vital or semi-vital fluids. A disinfecting change is thus going on on the surface of the wound at the same time that the metallic salt is exercising its own beneficial properties.

I employ the sulpho-carbolates of zinc and copper, dissolved in water in the proportion of 3 to 5 grains to the ounce, as a dressing, applied by strips of lint, and covered by oilskin in the same way as water-dressing. It may be used also in the way of irrigation. It keeps the wound clean and free from smell, and has certainly much and beneficial effect after operations upon tumours, &c., involving much subsequent discharge. I employ it also as an injection in gonorrhœal and other discharges from the urethra or vagina, and also as a dressing for superficial venereal sores.

The double salts may also be used in the way of ointment, by being well mixed in the same proportion with simple cerate.

Of the effect of the double salts of carbolic acid as an internal remedy, as recommended by Dr. Sansom, I have had little experience, but as a local application I am convinced that in them we have an extremely useful addition to our *armamentarium* in combating that insidious and fatal enemy of the surgeon and his doings, *pyæmia.* In this a powerful correlative agent is to be found in the free use of Macdougall's powder, as a means of carbolizing the air surrounding and breathed by the patient, in a serious case.

ON THE DANGERS OF BLISTERING, ESPECIALLY IN PNEUMONIA.[1]

BY DR. DAUVERGNE, PÈRE,

Médecin de l'Hôpital de Manosque, &c.

TRANSLATED BY THE EDITOR.

In a former article upon pneumonia I have stated my treatment, and pointed out the dangers of bleeding; I shall now complete my task, by showing that blisters are useless and hurtful in this disease, and that they are much abused in many cases.

It was in 1835, after treating two pneumonic patients ineffectually with large blisters, that I renounced that treatment; for I had perfectly satisfied myself—1. That blisters in no way diminish the duration of the disease; 2. That they increase the febrile excitement, *i.e.* the general heat and the rapidity of circulation; 3. That they are a real misery to the patient, aggravated by the slightest movement, and especially at each dressing; 4. That each dressing involves danger, because it is necessary to uncover the chest, which momentarily checks the cutaneous transpiration, sacrificing the effects of a natural general revulsion for the sake of a limited and artificial one; 5. Finally, I perceived that a fresh inflammation developed near an inflamed part is more likely to aggravate than to divert the disease from the latter.

I observed also, at the same time, that ordinary pneumonia was neither mitigated nor diverted, since stethoscopic examination on the day following the vesication with cantharides revealed no modification of the physical signs, and the fever itself was really increased, which obliged me to repeat the bleedings, just as if the blisters had never been applied.

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[1] On account of the great interest attaching, just now, to the question of counter-irritation, the Editor has departed from his usual practice of inserting only papers which are written expressly for the *Practitioner*. The article of Dr. Dauvergne, which is reproduced from the *Bulletin de Thérapeutique*, is very valuable, as embodying the results of many years' extensive observation, by a most intelligent physician.

What then is the good, I asked myself, of a treatment which does not diminish the local symptoms, which aggravates the general phenomena, which tortures the patients, and is likely to aggravate, and almost always to prolong, the disease by the mischief done in the necessary exposure of dressings, &c. &c.? I renounced the practice at once, and as I have never found any harm, I have continued to dispense with it. But although I have given it up, many practitioners, especially country doctors, have not done so, for very often I find myself in absolute opposition with them on this point, and I am therefore now compelled to justify my practice, and to ask them for an explanation of theirs.

For my part, before employing a remedy which is painful, inconvenient, and disagreeable from the odour of suppuration, I should need to be well assured that it either diminishes the extent or arrests the progress of pneumonia. But I know of no one who has first demonstrated by stethoscopy the degree and extent of a pneumonia, and then, after blistering, has proved the diminution either of the extent or the intensity of the inflammation. Galen applied blisters because Asclepiades, Archigenes, Ætius, and Cælius Aurelianus had applied them. Cullen proclaimed them because Sydenham and Freind had eulogized them. Finally, which is the strangest and saddest thing, the popular as well as the medical *furore* for vesication has gone on increasing till we all fancy ourselves compelled to apply blisters. And all this when no one has given us any reason! This abuse was needed to unblind the eyes of some of the *élite* of the profession, at the head of whom we should mention Louis, Chomel, Grisolle, Valleix, Rilliet, Barthez, and others, whose words and whose experience we shall invoke.

It is said, however, that M. Gendrin still states that he can make a pleurisy or a pneumonia abort by covering the whole of the affected side of the chest, at the outset, with a blister. But has he proved it? And in any case was not his remedy worse than the disease? Did he not cure a simple pleurodynia instead of a pleurisy? May he not have done much the same thing as our village bone-setters, who reduce dislocations that never existed, and leave real dislocations unreduced?

And indeed, if it were possible thus to relieve incipient pneumonia by revulsion, mere rubefacients, sinapisms, would answer every purpose. Trousseau and Pidoux perceived this, for they said: "At the commencement of an acute disease, if the stage of mere congestion be yet present, a rubefacient is indicated. But we ought to be jealous of a local agent which might produce a persistent inflammation; for, at a later period, if inflammation had been set up, we should have reason to regret the employment of a remedy which might uselessly prolong the sufferings of the patient."

From the date to which I have referred, I reserved blisters for chronic affections; but even in these I very soon altered my opinions in consequence of mishaps: in chronic diseases, because the patient was weakened by these issues, incessantly draining off the materials of nutrition, without restoring, by the continuous effect of habit, the functional harmony which alone is curative; in acute diseases, because for the few cases in which counter-irritants were indicated, the action of simple mustard plasters was much more prompt, and actually more powerful to give a physiological stimulus to the enfeebled vitality, without exposing the patient to dangerous consecutive suppurations.

Finally, the uselessness of "exutoires" in general was proved to me by the genuine effect of hydrotherapic medications, which only act by modifying, regulating, or increasing the organo-functional synergy, by exciting particular secretions, which then represent truly excrementitious conduits, since we can at will, and according to our need, provoke intestinal, renal, cutaneous, or even pulmonary secretions. (See my "Hydrothérapie Générale;" Paris, 1853.) In the present day, Messrs. Todd and Bennett in England, Béhier, Trastour, Pécholier, &c. in France, have proved by their alcoholic treatment that the latter has no direct effect on the pneumonia, but sustains and improves the general condition of the organism, which it thus gives time to free itself from the malady. Of what use are blisters if their only action must be a similar one, and ought only to be applied in analogous pathological conditions? But of what use would be my experience and opinions if they were isolated? Let me examine afresh the statements and the remarks of eminent practitioners, and let me prove that if I deceive myself, it is at least in good company. Louis, the sceptical physician *par excellence*, the reckoner, the conscientious verifier, heads the procession of this learned phalanx.

"Not only," says he, "have I banished blisters from the treatment of pneumonia, I have also discarded them in that of pleurisy and of pericarditis. For the last five years I have treated at the Hôpital de la Pitié 140 patients attacked with pleurisy, without once employing blisters; they all got well. It has been the same with thirty cases of pericarditis developed under circumstances of perfect health. These facts, it will be allowed, make the utility of blistering, in acute inflammations of the chest, more and more problematic. . . . What led me to relinquish blistering in chest inflammations was, that the attentive study and rigorous analysis of facts had compelled me to perceive that acute inflammatory affections, so far from preserving other organs, not primarily affected, from inflammation, excite inflammation in them; so that the more serious the primary inflammation, and the greater the fever, the more danger is there of secondary affections. How, then, can we believe that a blister will control an inflammation, since it is itself a new inflammation added to the other?"[1]

The above is assuredly practical medicine, and not expressed in vague words, but supported by weighty statistics, which are very different from anything that the partisans of the opposite teaching can produce. And was it not true practice of the best kind, when M. Andral, after witnessing the application of so many blisters in the clinic of Lerminier, who would not let his pneumonic patients off with less than three or four blisters at once upon the chest and upon the legs, said (some fifteen years later) from his chair at the Faculty, "Be very cautious in the employment of blisters, although many physicians make great use of them? In general they are more a torment than a solace to the patients."[2]

Trousseau, the eminent clinicist, the physician who has been specially considered as one of the most complete practitioners, thus expressed himself :—"As to blisters, I agree entirely with the opinion of a large number of my colleagues, that at the height of the disease they are capable of increasing the febrile excitement, and that at a later stage they become useless."[1]

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[1] Recherches sur la Saignée. Paris, 1855. Pp. 58, 59.

[2] Cours de Pathologie, t. i. p. 395.

Is this clear? But there are other voices, not less authoritative, which speak with a conscientious indignation which we cannot too carefully consider. The first is M. Coste (of Bordeaux), exclaiming in the midst of the Société de Médecine: "One counts by thousands the cases in which 'exutoires' have done nothing but give another torment, another pain, to the patients. At present, gentlemen, I believe that in my sympathising heart I have taken the final resolution, *at the risk of a momentary unpopularity*, not to employ them any more."

What, then, shall we say of a remedy which is painful, disgusting, and possessed of more proved defects than probable advantages? Assuredly it is a remedy to be finally repudiated, or language has no longer any value. But this is not all; let us hear the ingenious clinical professor of Strasburg, Forget. He expresses himself in not less categoric terms in general on blistering in chest diseases: "Blisters are useless, and provoke a purely wasteful pain and exhaustion, to such an extent that, for the majority of thoughtful practitioners, they are a kind of mere charm, which they apply *more for the sake of something to do than in the hope of producing the least benefit.* How many unfortunates have I personally seen perish, martyrs to these issues, with which the thorax has been seamed by practitioners of robust faith!"

What can one say more? Must we recall the fine discourse which Malgaigne made about ten years ago? Must we evoke his grand voice, making the arches of the Academy of Medicine ring, and crushing vesication and its partisans with the immensity of his science? Must we recall the emotion that followed in the medical world, so that people thought that medicine was shaken to its foundations, and implored the energetic professor to be silent, that he might not destroy at a blow the "exutoires" so passionately beloved by the public and by the doctors who flatter it? No, I should never have done if I were to reproduce all this; I shall limit myself to quoting certain practical observations, significant enough, and then, to complete the subject, I shall analyse the physiological and therapeutic effects of blisters.

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[1] Clinique de l'Hôtel Dieu, t. i. p. 608.

[2] *Journal de Méd. de Bordeaux*, t. ix. pp. 442, 443. 1851.

[3] De la Curabilité de la Phthisie. (*Bulletin de Thérapeutique*, t. xxxiv. p. 183. 1848.)

Obs. 1.—Two cases, about 20 or 25 years ago, first compelled my conscience to reject every kind of *obsequiousness*, from whatever quarter it might come. The first was that of a child of three years, affected with acute pleurisy and effusion, who after the application of a blister, proposed by the doctor and agreed to with transports of joy by the friends, experienced an increase of the effusion and of the fever, which became uncontrollable. The child sank, either from the artificial inflammation, or from the loss of valuable time.

Obs. 2.—The other case was that of a young man with typhoid fever and ataxy. I advised musk, but a colleague suggested blisters to the legs. It was in vain that I reminded him that, in reference even to idiopathic brain affections, Rochoux, so competent an authority, had said before the whole Academy, that they were more harmful than useful, seeing that the pain they caused, far from removing the cerebral suffering or irritation, increased it, because it was the brain alone which perceived the pain produced in the legs. All these arguments paled before the enthusiasm of the surrounders, and the blisters were applied. The ataxic delirium was calmed by the musk, before the blisters had taken; but they *did* take, so effectually that when the young man had got quite well he was kept in bed by gangrenous wounds, which the cantharides plasters had caused.

Would one believe it? Such facts fail to undeceive any practitioner "of robust faith," as Forget calls it, or the public which is victimised by it. The patient is always enchanted with remedies that produce a palpable effect which he sees with his eyes, and judges with his senses.

Obs. 3.—This spring I went to visit a child at its nurse's house, but could not find it. I called out; a boy of six or seven years came out from a cabinet, walking slowly, gravely, like a little old man. He was pale, puffy, with bent head, his neck enveloped up to the ears in a handkerchief, and as stiff as if it had been screwed into an iron collar. "You have a blister on the nape of your neck?" I asked. "Yes." "You are ill?" "No." "Why, then, the blister?" "Oh," said he, with a little air of whimsical pride at being submitted to such a medication, "they put them on my arms too" (touching each of his limbs, with a comic gesture, perhaps some ten times); "when one is done with they put on another." "And now that there is no more room on the arms, the neck has its turn? Do you cough?" "No." "You have headache?" "No!" "You have nothing the matter with your eyes; why do they put so many blisters on you, then? Have you a little gland in the neck?" "Oh, yes, but it only came lately." "Who is the doctor, then, who prescribed all this for you?" "We never see a doctor; my mother puts on the blisters, and the pharmacien gives me cod-liver oil."

The strange thing is, that many doctors would think themselves helpless if they had no more blisters; for one of them, assuredly in good faith, asked me naïvely, "But what can we do then?" I had the opportunity of showing him what to do in the case of one of his patients, the first sight of whom profoundly saddened me.

Obs. 4.—It was a child of four years, confined to bed for the last two months with bronchitis, which had been constantly, successively, and solely treated by blisters on the arms and round the chest. One or two were always kept suppurating, in order to justify the sarcasm of Molière—*Si non sufficit, reiteretur.* The little patient was like a mummy; the emaciation was so great that the dental arches protruded as in a monkey's face or a skeleton, so thin were the lips, and so large the mouth. The eyes were deeply hollowed, and the cheeks stretched over the malar bones. The child was lying, with head bent, hanging by its own weight, so incapable was the wasted neck of sustaining it. But when I was going to take his arm to feel the pulse, he sprang up like a lion, open-mouthed, to bite my hand. "What is that for?" I asked the mother. "Ah, sir," said she, "he thought you were going to dress his blisters. He always does that when we go to dress them, and we are obliged to hold him." What could be done, in the condition of this poor martyr? The blisters had not removed his cough, his pulse was small and rapid, his skin dry, hot, almost like parchment. I did not hesitate to advise tepid whole-baths in bran water to calm the pain of the blisters, and moisten the skin a little. I ordered syrup of digitalis, and demulcent drinks and milk (first diluted and then pure), to diminish the fever and the bronchial inflammation. This treatment gave immediate relief, and ultimately quite cured the patient.

Obs. 5.—About the same time I saw another child, similarly affected with bronchitis, which was then epidemic. This one, which had been treated in the same way, was dying when I was called to it; but I was struck with the remark of the mother, that the child gnawed the bed linen to enable it to bear the pain when its blisters were dressed.

Do you want facts that speak more loudly? Must you have plainer proofs of the uselessness, the abuse, the dangers, the tortures, of these blisters? Is not this pure practice, and that of the worst kind?

On what is blistering founded? Upon an idea of revulsion. And the physicians who employ it pretend to repudiate theory! Must we for ever repeat that practice can only be the result of a preliminary idea which inspires it? Well, this idea of revulsion, on what is it based? On this aphorism of Hippocrates: *Duobus doloribus simul obortis vehementior obscurat alterum.* Yes, but in the first place pains are not inflammations, nor even congestions, and to obscure or to mask a thing is not to divert or to destroy it. Yes, the old man of Cos was right when he said that a stronger pain can mask a weaker, but he was talking of a phenomenon of sensation. If a violent toothache comes after a rheumatism, it will make one forget the latter. It is very common for a mental pre-occupation caused by pecuniary loss to be quite effaced by the loss of a child or a beloved wife. It is known that a neuralgia or a neurosis may be cured by a strong emotion, or by a lengthened pre-occupation of mind. For instance, Barras forgot, and was cured of, his gastralgia in the grief of seeing his daughter fall ill and die of phthisis. It is in this way that the cures of the bone-setters, the sorcerers, the homœopaths, are to be explained.

Moreover, the aphorism of Hippocrates, on which the whole theory of revulsion is founded, could not be applicable to an inflammation artificially set up, even at a distant point, because the two inflamed parts are connected by the medium of the circulation, which is excited in direct proportion to the number and extent of these inflammations. Do we not see and know constantly, that an affection, an inflammation, is by so much the graver when it is complicated with another? But what are the wounds of blisters but little inflammations, nay, often serious inflammations?

A fortiori, if we create inflammations near to disease, not only is there the chance of failing to divert the latter, we run the risk of imitating, as one of my most illustrious teachers, Richerand, often said, a blind man armed with a stick, who should strike sometimes the disease, and sometimes the patient.

At the commencement of an inflammation, when there is as yet nothing more than congestion, or still better at the end of acute diseases, when the organic machinery is failing, when external heat diminishes and abandons the extremities, when the sensibility is lowered—nothing can be better than to restore the caloric, to excite the circulation, to re-animate the sensibility of those *vasa vasorum*, whose action seems at the point of extinction, to accumulate heat in the parts remote from the disease, to awaken sensation by sinapisms, by calling the blood thither and diverting it from the hyperæmic part where it seems to accumulate and stagnate, to employ even powerful cupping-glasses; for all this is done without a wound, and the action thus set up is more lively, more prompt, and more sustained than that of blisters; not to mention that the physician can suspend or moderate the effect at will. Doubtless this is the *good* practice, the efficacious revulsion, which we have often employed, sometimes uniting a local with a more distant derivation, in order that the two actions may heighten each other.

In the same way I have never understood the theory, and consequently have never employed or consented to the practice, of applying blisters to the head in cerebral inflammation. In the first place, I have never seen any but disastrous results from the treatment; and secondly, it is the height of illogicality to make an ulceration—an inflammation—on the scalp when there is already an inflammation of the brain, and perhaps of the membranes; although in the case of erysipelatous inflammation of the scalp we so dread lest the cutaneous inflammation should extend to the membranes or to the brain itself.

What function remains, then, for blisters? Their action on the nervous system in modifying pain, the changes of sensibility which they produce in the neuroses, such as sciatica, intercostal neuralgia, and some varieties of tic-douloureux.

They may be utilized also, as I have done, in certain serous effusions, in latent pleurisy, but on the express condition that there be no fever present. I have obtained good results in encysted goitres, after the example of our illustrious master, M. Jules Cloquet. It is possible too, with much precaution and prudence, to obtain favourable results in indolent hydrarthroses, in some recent hydroceles, possibly in congenital hydrocephalus; but in all these cases blisters can frequently be replaced by iodine applications, or by compression; and they act in these cases not by revulsion, but by simple endosmose, attracting the fluid through the tissues, according to Dutrochet's doctrine.[1]

Finally, it is their genuine inflammatory action which produces good results in surgery, as in the cases (referred to by Petit of Lyons, Conté, Herrera, and Dupuytren) of erysipelas, and (by Velpeau) of diffused phlegmon. Here, in fact, they arrest the disease by drawing into a limited and enclosed area the fluids of one and the same sheaf of capillaries. They are here doing their true work, for they add to the inflammation, and precipitate its resolution by provoking a premature suppuration at a part already disposed to this process, and this with the chief intention of limiting the extension and diffusion of the disease.

Even in these cases, however, although they are the most favourable for blisters, it must once again be said that the latter are not indispensable; that they may be advantageously replaced. Thus, not to mention the four cases of angioleucitis treated in the Hôpital Necker by M. Guyon, by means of compression, and published by Mr. Edward Alling,[2] let us quote Velpeau himself, who criticises his two favourite methods. "The action of blisters is limited to hastening and deciding a suppuration or a resolution which was previously uncertain, when one applies them at the prominent point of indurated masses. In angioleucitis, as elsewhere, blisters have this precious double quality, viz. of bringing about resolution if that be possible, of provoking suppuration if that be inevitable."

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[1] See my memoir, "Sur la Pleurésie avec Épanchement" (*Bulletin de Thérapeutique*, t. lix).

[2] *Bulletin de Thérapeutique*, t. lxxvi. p. 150.

It is going a long way to accord to blisters two actions at once which are entirely opposed to each other, and, notwithstanding the respect which I retain for this great surgeon, I can only see here a physiological contradiction, and in any case it would remain to prove from practice whether blisters do not more readily produce foci of suppuration than resolution of inflammations. That is what Velpeau should first have determined; the more so because, in the cases where he only aimed at resolution, he ought to prefer compression, for a few lines further on he adds: "I might say nearly the same of compression as I have said of blisters. In all diffused subcutaneous inflammations, taken at the early stage, a compression carefully made, a roller-bandage methodically and ingeniously applied, constitutes *the best possible means of resolution.*"

Surely it would need much less than this last expression to put an end to all competition between compression and blisters, and to give the preference to the former. If there were any doubt about it, one might take the patient's own opinion.

After this almost complete review of blisters, what remains of their benefits? But little; and, on the contrary, very many inconveniences. The surgeons, alone, may sometimes rehabilitate them. And in fact it is they who have so widely extended their use. Their habituation to seeing the disease, to be always dressing something, must go for much in their retention of suppuration as a remedy; but that is not rational therapeutic physiology.

ON THE USE OF ACONITE AND COLCHICUM IN COMBINATION IN VARIOUS RHEUMATIC AFFECTIONS, AND ESPECIALLY IN THOSE OF THE EYE.

BY HENRY POWER, F.R.C.S.
Ophthalmic Surgeon to St. George's Hospital.

During the last few years I have employed these remedies to a considerable extent in the various cases of rheumatic disease that have come under my notice, and finding that their use has been attended with great benefit, when judiciously administered, I think it may prove of service if the plan I have adopted be here placed on record. By far the largest number of cases I have had to treat have, of course, been those of rheumatic ophthalmia; but as surgeon to the Linendrapers Company, I have had occasion to see a considerable number of cases, in which the disease has not been limited to a single organ, but has affected the system generally. The members of this society, in fact, according to my experience, show a rather unusual proclivity to rheumatic disease. Nor is it difficult to account for this from a consideration of the peculiar circumstances under which they are placed. For the most part confined throughout the day in hot and ill-ventilated apartments, and during a considerable part of the year exposed for many hours to the products of gas combustion, with doors opening directly upon the street constantly being opened, and on each occasion letting in a flood of cold air; with often only a hasty and interrupted mid-day meal between breakfast and tea; and with but limited time for exercise, and that chiefly at night, it is not surprising that rheumatic affections are often complained of amongst them.

Rheumatic ophthalmia is a very common affection amongst the poorer class of patients who present themselves at our ophthalmic hospitals. I find, from reference to my own notes of cases seen at the Royal Westminster Ophthalmic Hospital in 1867, that out of 1,700 cases, about 130 were cases of rheumatic and catarrho-rheumatic ophthalmia; whilst in 1868 there were about 180 cases out of 1,800, or one in ten; and at St. George's in 1868, about 47 cases in 740. It is of course difficult to give the numbers with great exactness, because some of the slighter cases would probably be entered under the term conjunctivitis, and some of the more severe under the heads of irido-choroiditis, irido-cyclitis, general ophthalmia, and the like.

The cases to which I here particularly allude under the term rheumatic ophthalmia are those in which the characteristic symptoms are a reddened and inflamed appearance of the eye, which upon examination will be found to be produced partly by congestion of the superficial conjunctival vessels, that present a scarlet colour, and partly of the deeper episcleral and scleral vessels, which are of a deeper pink or purple tint. When the conjunctival vessels, which anastomose freely with each other, are alone affected, the case is usually termed one of conjunctivitis, or of catarrhal ophthalmia; if both the superficial and deeper vessels are congested, the case is termed one of catarrhal rheumatic ophthalmia; and finally, if the deeper vessels are exclusively or chiefly implicated, the case is said to be one of sclerotitis, rheumatic iritis, or of pure rheumatic ophthalmia, and these three conditions merge into one another by insensible gradations. The first and second are often attended by a considerable amount of chemosis and constant lachrymation; whilst in the cases of pure rheumatic ophthalmia this symptom is often absent. The pure rheumatic and catarrho-rheumatic cases are especially characterised by the nature of the pain with which they are accompanied. In simple conjunctivitis of a catarrhal origin, the pain is trifling, and is chiefly of a pricking or smarting character, whilst in the other forms it consists of a more or less severe aching or throbbing in the eye itself, which extends over the brow and temple. The pain in these cases broods, as it were, over the patient by day, yet is seldom sufficiently severe to make him give up work; but at night, or in the early morning, it comes on in paroxysms, which rapidly increase in intensity till the pain attains its acme, which may last for some hours, and may then gradually decline or terminate more suddenly in a gush of tears.

In many cases careful examination will show the presence of ulcers, which are usually lateral, elongated, shallow, with irregular and dentated or eroded margins, and which may readily escape notice, as well from their position near the margin of the cornea as from their bases and borders being clear and transparent. The vision is almost always stated to be impaired, though not to so great an extent as to prevent the patient from reading moderate-sized print, or from working. Occasionally there is some intolerance of light, but this is not a prominent symptom. In the great majority of cases the bowels either are or have been confined, and the subjects of the affections are often thin and depressed both in mind and body. On questioning them, it may generally be elicited that they have recently experienced flying pains in the joints and muscles, especially of the shoulders and loins, and that the urine has been high-coloured or has deposited copious sediments of the lithates. In regard to the ætiology of these rheumatic affections, it is commonly stated by the patients that it results from exposure to atmospheric vicissitudes, to cold or wet, or that it has arisen from sleeping in a damp bed, or in a strong draught, as in a railway carriage with the window open. There can be little doubt that such exposure is often the immediate or, as it is termed, the proximate cause of the attack; but it must be remembered that the system of a healthy man possesses a remarkable power of resistance to the influences of weather, and it is only when the powers of his nervous and vascular organs are depressed that he succumbs to them. Hence the predisposing causes of rheumatic disease assume an importance fully equal to the exciting causes. That mere exposure to cold, even when sudden and alternating with heat, exerts any influence on the production of rheumatic affections in healthy men is to some extent negatived by the experience of Arctic navigators, who almost uniformly found that exposure to a temperature amounting to 60°, or even 80°, below the temperature of the interior of the ship, was rarely followed by any inconvenience. I have noticed, however, that laundresses and washerwomen, who are alternately exposed to a warm and moist, and to a more dry and cold atmosphere, are frequent subjects of rheumatic disease.

This point of the influence of temperature, however, and of those conditions which are included under the term "weather" on the production of diseases of the eye, although they are very commonly referred to by authors, it is only in a general way; and, so far as I am aware, no attempt has been made to show to what extent changes of temperature influence the occurrence of such diseases. At my request the present house surgeon of the Royal Westminster Ophthalmic Hospital, Mr. Charles Little, undertook to extract from my notes all the cases of acute disease that came under my care in 1868, arranging them according to the months, and from them I have selected certain affections, which are given in the table on the next page.

I have also extracted from the reports of the Registrar-General the temperature and some other meteorological conditions present in the last year, and arranged them in the following table:—

1868.

The mean Air Temp. of the Year was 10·9 (C. 51·6 F.) or 1·7 above the average.
The air was unusually dry.

	Barometer	Temperature of the Air.			Relative Proportion				Rain collect.
		Mean daily range.	Mean for the Month.	Mean degree of humidity	Wind.				
					N.	S.	E.	W.	in.
January .	29·74	8·6	37·2	86	8	5	8	10	4·19
February .	29·96	13·1	43·0	80	2	0	10	17	1·28
March . .	29·82	16·1	44·0	80	5	2	10	14	1·07
April . .	29·78	18·7	48·1	78	9	5	8	8	2·08
May. . .	29·84	24·4	57·3	74	3	8	12	8	1·67
June . .	29·98	25·5	62·0	68	8	5	7	10	0·47
July. . .	29·89	26·3	67·5	63	12	5	6	8	1·06
August . .	29·73	20·1	63·6	73	3	6	11	11	2·61
September.	29·69	20·6	60·5	74	6	10	8	6	1·52
October .	29·79	16·7	47·9	88	5	4	9	13	2·59
November .	29·83	10·8	41·5	87	11	6	7	6	1·16
December .	29·37	9·4	46·0	90	1	4	14	12	5·45

Now, few as the data here supplied are, it is observable that if we divide the year into two periods, one extending from May to October inclusive, the other from November to April, the number

ACUTE DISEASES OF THE EYE OCCURRING AT ST. GEORGE'S AND THE ROYAL WESTMINSTER OPHTHALMIC HOSPITALS DURING 1868.
TOTAL NUMBER OF PATIENTS, 2,540.

	Total Number of Cases.	January.		February.		March.		April.		May.		June.		July.		August.		Sept.		October.		November.		December.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Acute Conjunctivitis.	283	10	13	12	15	10	15	15	11	10	19	8	19	8	11	7	11	8	13	7	19	10	12	10	10
Phlyctenular Conjunctivitis . . .	111	1	4	5	6	7	9	7	2	5	9	4	7	3	3	2	5	2	4	0	7	4	7	2	5
Catarrho - Rheumatic Conjunctivitis. .	143	0	2	7	8	9	3	5	1	8	7	7	3	6	5	10	6	8	11	10	6	7	4	8	2
Rheumatic Sclerotitis	71	6	3	2	1	1	1	1	2	3	8	1	3	1	7	4	4	2	5	2	4	2	4	2	2
Rheumatic Iritis . .	42	0	2	3	2	1	3	2	0	3	0	2	2	2	1	3	1	3	1	2	1	3	2	1	2

If we exclude the two first series, and add up the three last, which may be regarded as forming collectively the rheumatic affections of the eye, we obtain the following results:—

Rheumatic diseases of the Eye . . .	256	13	23	18	11	29	18	22	28	30	25	22	17

of rheumatic affections occurring in the former or summer months as compared with the latter, is in the proportion of 16·9, or very nearly double, whilst it will be seen that it is precisely in those months that the mean daily range of temperature is most considerable, though the mean temperature for the month is of course higher, whilst the mean degree of humidity is small; in other words, cold and wet weather does not *per se* augment the number of rheumatic affections, providing it be uniform; but such affections seem to be more numerous in proportion as the differences between the day and night temperatures are greater.

But passing from this, let us now proceed to the consideration of the treatment. I do not believe that any one plan will always prove effectual in curing the patient. A plan of treatment appropriate to the cure of any disease must always depend on a just appreciation by the surgeon of the various causes which have concurred to produce the disease, and of the conditions which are operating in maintaining it; when these are removed or subdued, the natural powers of the system will in general be sufficient to restore health. Hence in every case certain general measures must be adopted, without which special agents will produce but little effect. The three most important of these are, keeping the patient in a room of tolerably uniform temperature, attention to the diet, and to the state of the bowels. The comparative uniformity of temperature possessed by our large hospitals undoubtedly exercises a very beneficial influence on the process of cure in many of the diseases of the poor, and has scarcely been sufficiently recognised or dwelt upon by the advocates of such buildings, in opposition to small and temporary sheds; it is certain that it greatly aids other remedies in the cure of rheumatism. In regard to diet, looking at the general condition of the patients, I have usually ordered a moderate allowance of meat, with ℥iv of wine per diem, and bread and milk or porridge for breakfast and tea, but have always interdicted beer, which appears to exert the same influence on rheumatism as on gonorrhœa, with which every surgeon is familiar. In regard to purgatives, their value in the disordered condition of the bowels, so often present in the subjects of rheumatic disease, seems to have been generally acknowledged. I do not remember an instance where the exhibition of a brisk purge was followed by ill effects, but I have seen many where a good purge has itself wrought considerable improvement. Patients of a lax fibre, pallid complexion, and engaged in sedentary pursuits, will often reply that their bowels are open once or twice a day, or even that they are rather relaxed; whilst if 5 grains of calomel be administered over night, and a black draught be taken in the morning, a quantity of hardened fæces and scybala will be got rid of, that occasions surprise to themselves, and materially facilitates the action of other remedies.

In cases where the inflammatory symptoms have been very severe, I have frequently directed the application of from one to six leeches on the temple before commencing the treatment with aconite and colchicum, the latter number always producing a powerful local, and sometimes a well-marked general, influence. And now when the patient has been placed under favourable hygienic conditions, with a cleared alimentary canal, and with the vessels locally relieved, the treatment with aconite and colchicum may be commenced in the majority of cases with every prospect of success. The doses I have usually employed have been three minims of the tincture of aconite and twenty minims of colchicum in an ounce of camphor mixture, repeated three or four times a day. In feeble patients, in women, and in children of from 10 to 14 years of age, the quantity of each tincture may be reduced to one-half; and when the water is, or has been high coloured, with deposits of the lithates, the bicarbonate and nitrate of potash with a little spirit of chloroform or of nitric acid may be advantageously added.

In many instances, and especially when the disease presents a periodic character, recurring with great regularity at a certain period of the night, the addition of two or three grains of quinine, or of a few minims of the liquor arsenicalis, may be made. The only two unpleasant symptoms I have ever observed have been nausea and sickness, probably produced by the colchicum, and tingling and numbness of the fingers proceeding from an overdose of the aconite. These, however, have been rare and exceptional inconveniences, and have in every instance promptly disappeared with the intermission of the medicine. When successful, the immediate and first perceived effect of the treatment is cessation of the pain, the patient as a consequence sleeping throughout the night and awaking greatly refreshed on the following morning. The redness of the eye appears then gradually to diminish, the intolerance of light and lachrymation, if any be present, disappear, and the patient's appetite and health quickly return, nor have I noticed any particular tendency to relapse.

The *modus operandi* of aconite and colchicum it is difficult to explain. Do they act primarily on the heart, and by lowering its action diminish the *vis a tergo,* and thus allow the congested vessels time to relieve themselves? Or do they act on the smaller vessels through the vasomotor nerves, causing them to contract, and thus opposing an obstacle to the supply of blood to the inflamed part?

No reply can be obtained on these points even from our latest therapeutical authorities, but I can fully corroborate the statement made by Dr. Ringer in his recent "Handbook of Therapeutics," that if aconite succeed in subduing inflammation at all it will act with rapidity.

In conclusion I may just add that in some instances, when the pain has been very intense and has not yielded to the above measures, I have employed the subcutaneous injection of a solution of morphia with the best effect; and believe that when due care is taken in removing all impurities from the tube of the instrument, abscess, sloughing, or other unpleasant symptom is rarely produced.

THE VACCINATION QUESTION.

BY THE EDITOR.

ALTHOUGH this journal does not concern itself with what may be called the technical apparatus of hygiene in general, we can hardly ignore a matter so immediately connected with everyday medical practice as the discussion which has been recently raised respecting the proper mode of vaccination. Events have conspired, in rather an unusual manner, to raise difficulties about vaccination which may impress the public mind very unfavourably, and instead of producing a beneficial modification in the mode of procedure may discredit Jenner's great discovery itself; and certainly in a most undeserved way. We think it is important that an impartial view of the subject should be presented to the profession and the public, in order that questions may not be unfairly prejudged.

It may be well to point out the unusual circumstances under which the question of compulsory vaccination has been again brought under notice. The public mind, for the last two years, has been somewhat excited by the operation of the Amended Vaccination Act of 1867. That Act was in fact considerably more stringent in the direction of compulsion than anything which had preceded it, and it pressed with just sufficient severity on the few wrong-headed individuals who are on principle opposed to vaccination for their children, to give them the appearance of martyrdom. In the next place, the persistent agitation of the noisy clique of medicals and semi-medicals who have made it their business to oppose vaccination altogether, has gained more attention from the public in the last few years, simply because the feelings of the community have lately been strongly awakened to the interest and importance of hygienic questions to the general welfare. Thirdly, there has occurred a great revival of the tendency to recur to animal vaccination, in consequence of the terror which was excited by a series of narratives, commencing with the celebrated Rivalta case, of the alleged transmission of syphilis by the medium of humanised vaccine. The reality of the danger of vaccino-syphilitic inoculation was admitted by no less a person than M. Depaul, the chief official inspector of vaccination in France, who thereupon took up and urged forward the practice of vaccination with lymph obtained from the heifer. The Belgian Academy has also (chiefly in consequence of the representations of M. Warlomont) adopted animal vaccination. And quite recently a physician in this country—Dr. Blanc, of Abyssinian celebrity—has made strenuous efforts to promote the same system: efforts which, owing to his personal reputation, have attracted much public attention. Finally, to add to the general excitement, it has lately happened that more than one of those fatal instances of the effects of careless vaccination which do and almost necessarily must occasionally happen, have given rise to fresh conversation and remarks in the public journals. The wildest stories about the communication of infectious disorders by humanised lymph have been freely circulated, and there is really some danger that medical opinion may be falsely represented to the public eye as split into two hostile camps of nearly equal size and importance. Nothing could be further from the truth; and it is the purpose of the present paper to show how greatly the present difficulties and disputes have been exaggerated. It is most important that the public should not be led falsely to suppose that the fundamental facts of Jenner's discovery have been put seriously in doubt by anything which has occurred; for with such a belief the laity might not unnaturally take the whole matter into their own hands, with results of which it is not easy to estimate the disastrous character.

Let it be distinctly understood, that it is no part of our purpose to prejudge the feasibility or the value of recurrence to animal vaccination *per se*. But it is absolutely necessary to protest against that part of the arguments for the general introduction of this system, which consists in the attribution of all manner of evils to the process of vaccination with humanised lymph. Two specific allegations are being made, either of which would be most grave if true, and the united weight of which quite naturally moves the public (which believes that there is really respectable medical evidence to their truth) to a very serious agitation and excitement against compulsory enforcement of the existing system. It is in the first place said that the lymph which has passed through several generations of human beings has lost, in great measure, its protective character against small-pox. And secondly it is confidently alleged that vaccine matter accidentally taken from diseased persons can convey serious infective disorders to persons in whose skin it is inserted, and in particular that that most dangerous and repulsive disease, constitutional syphilis, is specially liable to be conveyed in this manner. We regret to see that, owing to the supineness of the great mass of the profession, these rumours have been allowed to spread unchecked, till even the most sensible people are becoming thoroughly frightened. There is no lay journal which habitually exercises so much care, moderation, and judgment in speaking of medical matters which interest the public as the *Spectator;* yet that paper has lately inserted some remarks which show that it believes medical opinion to be really in favour of the idea that the protective power of lymph does fatally degenerate by transmission through the human body. And as an instance of the way in which the alarm of infective contamination is taking hold on private individuals of high cultivation and ability, we may notice a letter from Mr. Francis Newman, in which he joins the Anti-Compulsory Vaccination League, expressly because he believes that syphilis and other contagious disorders can be transmitted by vaccination. It is fully time that a simple statement of the facts really known should be put forward; for nothing could be more mortifying and disastrous than an interference with the practical working of compulsory legislation which should afterwards prove to have been based on false alarms.

I. As regards the statement that the protective influence of lymph which has passed through repeated human inoculations is weakened, we must say, that it is to us impossible to understand how medical men of intelligence can believe that the evidence on record goes to establish this. There is, of course, one obvious blunder into which it is possible to fall in arguing about this question; the error, namely, of forgetting that lymph, like anything else, may be spoiled by thoroughly ignorant handling. Dr. Jenner himself pointed out the possibility, and indeed facility, of degeneration in consequence of transmission through *unselected subjects;* and every vaccinator of large experience has reiterated the caution. But the case is utterly different with the well-known lymph-stocks which are obtained from the National Institution, and many of which are directly descended from Jenner's original lymph, having never passed through any but human systems during all that number of years. This lymph, which is accessible to all, is so far from having shown any, even the faintest, traces of a degenerative tendency, that on a recent occasion it produced the following most striking and wonderful results. At five vaccination stations in London, Liverpool, and Birmingham, 446 punctures were made, with lancets armed with this lymph. The result was, the production of 443 typical and perfect vesicles, of such a character as has always been found to ensure complete protection. It is impossible to imagine a success more near to the absolute; unless we could suppose that these very vesicles only represented an imperfect and not completely protecting vaccinia. But the reporter of these cases was no less a person than Dr. Seaton, whose experience in vaccination is enormous, and he considers that they were of the typical kind for the purpose of protecting from small-pox infection. There is, however, a much more direct proof on the subject, to be derived from the remarkable experience of the Small-pox Hospital in regard to the immunity of the nurses of that institution. Among these officials (who had of course been carefully and officially vaccinated) *not one instance occurred, during thirty years, of a contagion received from inmates of the hospital*, upon whom they were constantly attending. Yet these persons were vaccinated, doubtless, with lymph which was far enough in its descent from the cow. We might easily multiply, indefinitely, our citations of exact and precise instances going to prove the efficacy of good and carefully selected humanised lymph, however distant in genealogy, from the original cow, to produce the maximum of protective effects against small-pox. But to our mind the two instances above quoted are alone sufficient to carry conviction.

We had written thus far, and were about to take up the consideration of the objections urged by the one adverse authority who, in our opinion, is really entitled to be listened to with a high degree of respect. Mr. Marson of the Small-pox Hospital, in his very able article on Small-pox (Reynolds's "System of Medicine," vol. i.), intimates his opinion that the continuous humanisation of lymph does sometimes tend to deteriorate its protective powers and to render advisable the recurrence, in such cases, to good stocks of cow-lymph. We confess that we are unable to see how Mr. Marson has convinced himself of this fact, and he certainly gives no detailed proofs of it. But the mere *ipse dixit* of so experienced and thoroughly honest an observer is entitled to a high degree of consideration, and we are content to suppose that for the above opinion he had further grounds of which we are ignorant. But our attention has been directed afresh to the original statements of Mr. Marson by the perusal of a pamphlet which has just come under our eye. Dr. Blanc, whose efforts on behalf of animal vaccination have been already referred to, has published the text of a paper[1] read by him at the recent meeting of the British Association at Exeter. In this pamphlet he urges the two capital charges against humanised lymph—that it has lost much of its protective power, and that it can communicate other infections. Now the manner in which Dr. Blanc deals with the statements of Mr. Marson is so remarkable as to demand serious attention. When it is remembered that the paper in question was read before one of the principal learned societies in England, we are at a loss to express our astonishment at the temerity, or else the complete incapacity for appreciating the elements of statistics, which it displays.

Dr. Blanc produces a great show of figures, which are intended to prove the degeneracy of humanised lymph in a triple manner. In the first place he remarks that the admissions, in successive periods of years, of patients to the Small-pox

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[1] "Compulsory Vaccination: An Inquiry into the present unsatisfactory Condition of Vaccine Lymph, and a Remedy proposed." By H. Blanc, M.D., &c. London: Churchill. 1869.

Hospital, show a constant increase in the proportion of post-vaccinal small-pox to cases of small-pox in the unvaccinated. He is, in fact, quoting Marson's figures when he says that in 1819 only 19 post-vaccinal cases were admitted to the hospital; whereas in the eleven years, 1855–65, 5,622, or 84 per cent. of the total cases admitted, were post-vaccinal. Now Marson attributes this inversion of the relative proportions of post-vaccinal and non-vaccinated cases simply to the increased spread of vaccination; but Dr. Blanc omits to quote this opinion, and indeed constantly cites Mr. Marson as a witness altogether on his own side; and merely mentions the increased spread of vaccination (along with the increase of population, which could not possibly have had anything to do with the change in question!) as a partial and limited cause of the increased proportion of post-vaccinal small-pox. This is pretty well, but there is more to come. At page 18 Dr. Blanc actually represents the foregoing facts as follows:—"From perfect immunity in those inoculated with spontaneous cow-pox, we pass from a few rare cases of subsequent small-pox to a small percentage, gradually but steadily increasing, until in 1864 it reached the very high average of 84 per cent."! Comment on this peculiar manipulation of facts is needless; nor have we come to the worst. On page 21 Dr. Blanc specifies the respective numbers of post-vaccinal cases of small-pox at the hospital, and the respective rates of mortality among them, over the periods already named. He winds up with the eleven years 1855–65, in which he shows the mortality among the 5,622 post-vaccinal cases to have been 459; he then remarks:—"If now we take this last number, '459' representing the fatality in the London Small-pox Hospital, from 1855 to 1865, among the vaccinated, and compare it with '528, representing, in the same establishment and during the same period of time, the fatality among the unvaccinated, it gives for the vaccinated a mortality of *only* 69 *less than for the unvaccinated.*" [The italics are ours.] It is almost inconceivable that Dr. Blanc should have written the last paragraph, coolly ignoring, as it does, the fact that the "528" fatal cases in unvaccinated persons, occurred among a total number only one-fourth as large as the number of post-vaccinal cases! We are sorry to speak severely of Dr. Blanc, from whom, indeed, we had hoped for better things. But it is the duty of scientific journalists to condemn such statements as the above, made with regard to a question of the greatest national importance, in the strongest terms.

But we have not yet done with this author. He invokes Jenner as an advocate of the doctrine that original cow-pox is an *absolute* preservative against small-pox. It is true that certain isolated passages in Jenner's early correspondence may be strained to bear this meaning. But if Dr. Blanc has anything better than the most superficial acquaintance with Jenner's opinions, he must know that on an occasion when that great observer formally delivered his mind he expressly repudiated the idea above quoted. Jenner says, in the clearest manner, that he never expected vaccination (and here he is certainly speaking of the natural and the artificial process on equal terms) to afford more protection than small-pox itself; and *that* he well knew gave no absolute immunity. But to represent Jenner as an authority for the idea that spontaneous cow-pox is more permanently protective than humanised cow-pox is not merely to exaggerate, it is to absolutely reverse the whole sense of his teaching. His life was consecrated to experimentation on the permanence of protection afforded by humanised lymph, and his final opinions were more strongly affirmative of that permanence than he had dared to hope they would be.

One more word, and we have done with Dr. Blanc. Throughout the recent discussion, and especially in his latest brochure, he has urged the fact of the greater local *inflammtaory disturbance* produced by inoculation from the heifer, as a proof that the protective efficiency of that operation is greater than that of vaccination with humanised lymph. He is here committing a blunder for which we admit he has the excuse of merely copying a physician who ought to have known better—M. Depaul, of the French Academy. It is a fallacy exploded years since, a blunder which was recognised quite early in Jenner's investigations. The local inflammatory process, so far from being directly proportioned to the true development of the vaccine vesicle, is an unhappy accident, any considerable development of which tends seriously to interfere with the essential infective process; and we venture to say that there are scores of country doctors' apprentices, scattered about this country, who could have certified Messrs. Depaul and Blanc of that fact from their own experience. The typical vaccine vesicle, from which an experienced vaccinator would hope to get the best results, never develops an areola of more than medium size, and above all things it is never surrounded with a large and *dense* ring of induration. So that the very argument which Dr. Blanc urges in favour of the superior value of heifer vaccination is a distinct and serious objection to it! But enough of Dr. Blanc for the present.

The truth is, that the question as to the practicability of procuring general protection to the population, against small-pox infection, will have to be fought out upon a different ground. That the prolonged transmission of lymph through the human subject is, *per se*, a cause of its deterioration, was denied by Jenner (after twenty-five years' careful watching of the effects of his system), and has been denied in the most recent times by a large majority of those authorities whose experience has been of first-rate magnitude. What is of even more consequence is, that it has been denied in the most emphatic way by men like Mr. Ceely and Dr. Sanderson, who have assiduously studied the disease as produced by direct inoculation from the cow. We take it that there seldom was a fact better established in medicine than this, that, given (*a*) a certain amount of skill in the vaccinator, and (*b*) lymph derived from a stock which has been carefully passed through healthy and susceptible individuals, as perfectly satisfactory results can be obtained from the oldest stocks of lymph as from the youngest, or from the cow itself. The real question—and in common honesty the profession ought not to shirk it—is, whether the whole blame of such failures in protection as occur, does not rest with the vaccinator, in regard either to his defective skill in performing the operation, or to his negligence in the selection or the storing of lymph. Until quite lately it seemed as if there would be no need to institute such an inquiry. The following table speaks for itself; we quote it from Dr. Seaton's admirable work on Vaccination (Macmillan & Co. 1868):—

Periods compared.	Annual Deaths by Small-pox in England and Wales.	Annual Rate per million of the Population.
1. Average of 30 years previous to introduction of Vaccination, estimated by Dr. Lettsom and Sir Gilbert Blane	—	3,000
2. Average of three years (1838–40[1]) when Vaccination had become to a great extent diffused, but before any public provision was made for its gratuitous performance	11,944	770
3. Average of nine[2] of the years (1841-53) when Vaccination was gratuitously provided, but was not obligatory	5,221	304
4. Average of the ten years (1854-63) during which Vaccination has been to a certain extent obligatory	3,351	171

Nothing could be clearer, apparently, than the inference that more compulsion was the only thing needed to utterly eradicate small-pox from the country. To all except a mere fraction of the educated classes—a fraction whose general intellectual status may be briefly described as being about on the level of table-turning and mesmerism—it seemed an accepted fact that nothing save the want of an efficient machinery for compelling every one to have his children vaccinated at a proper age was hindering the complete extinction of small-pox. Of late years, however, several causes have conspired to diminish this feeling of confidence.

1. The practice of *revaccination* has proved to be much more extensively necessary than Jenner originally supposed; for whereas he believed that this was only needful where the original vaccination had not run a *regular course*, it is now stated by the best authorities that revaccination is also required (*a*) in cases where, although the course of the original infection was regular, the amount of it was small; and (*b*) in a small indeterminate number of persons whose primary vaccination was both regular and sufficient, but in whom the protective effect of vaccination tends

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[1] The present system of registering deaths only commenced in 1837.

[2] During the years 1843-46 causes of death were not distinguished in the Reports of the Registrar-General.

to wear out more rapidly than it does in the majority of mankind. And as both these contingencies are such as it is extremely difficult to predicate the non-existence of in any particular case, the natural deduction has been that the practice of a revaccination should be the rule, more especially when the danger of small-pox infection is immediately present. The declared opponents of vaccination have always quoted this admission of the desirability of revaccination as a proof that the Jennerian theory of protection was unfounded; and now we find the fact being brought forward as an argument by those who do, indeed, believe in the protective power of vaccination, but who assert the degeneration of humanised lymph and the necessity of recurring to direct vaccination from the cow. 2. Several rather severe epidemics of small-pox, which have occurred both in England and on the Continent within the last few years, have further disturbed men's minds. 3. The greatly increased attention which is everywhere directed, at the present time, to questions affecting the public health, has made people forget the triviality of these outbreaks in comparison with the terrible frequency and fatality of small-pox epidemics in the days when vaccination was non-existent or but little diffused.

For our own part we maintain that there is still as much protection as there ever was from vaccination with humanised lymph, *when this is properly performed.* The reasons which induce us to believe that carelessness and ignorance are the essential causes of failure are very strong, but they can be more completely summed up after the discussion of the second part of our subject—the alleged transmissibility of infectious disorders by the medium of humanised vaccine. That question, however, will require more space than we can now afford, and must be taken up in our next number.

(*To be continued.*)

Reviews.

Das Chloral Hydrat, ein neues Hypnoticum und Anæstheticum, und dessen Anwendung in der Medicin. Eine Arzneimitteluntersuchung. Von Dr. OSCAR LIEBREICH. Berlin: G. F. O. Müller's Verlag. 1869.

Hydrate of Chloral, a new Hypnotic and Anæsthetic. By Dr. O. LIEBREICH. London: Williams and Norgate. Price 2*s.*

Experiments with Chloral. By M. DEMARQUAY. Reported in *Lancet*, Sept. 25.

Report on the Physiological Action of Hydrate of Chloral. By Dr. RICHARDSON (at the British Association Meeting). *Medical Times and Gazette*, Sept. 4.

THE discovery of the medicinal qualities of hydrate of chloral is a very important fact. Many things are yet *sub judice* as to its physiological effects, but there can be no doubt, we think, that it will prove a valuable addition to the Materia Medica. It must be admitted, however, that upon the very threshold of the inquiry certain remarkable discrepancies of observation between physiologists of acknowledged ability have arisen, and will require immediate reconsideration. Briefly described, the position of affairs is this: Dr. Liebreich states that hydrate of chloral, administered by the stomach or subcutaneously, becomes decomposed by the free alkali of the blood, with the effect that chloroform is liberated within the body, and that the chloroform thus gradually set free acts, above all things, as a *hypnotic;* but when large doses are given, a prolonged *anæsthetic* effect is produced. Dr. Liebreich experimented on frogs, rabbits, dogs, and human beings. Dr. Richardson resumed the inquiry, and experimented on pigeons, rabbits, and frogs. He confirms the statement that the blood decomposes hydrate of chloral with evolution of chloroform. He also confirms, on the whole, the results obtained by Liebreich as to the production of sleep, and, with large doses, of prolonged insensibility. But as regards *anæsthesia,* he makes the important remark that in rabbits the period of actual anæsthesia is short, and is succeeded by a condition of actual *hyperæsthesia* of the skin.

Richardson made a number of comparative experiments with other anæsthetic agents; but the point of greatest interest brought out in his results is that the *subcutaneous injection of chloroform*, in efficient dose, leads to as perfect and prolonged narcotism as the hydrate of chloral, with an absence of other symptoms which the latter produces (convulsive tremors, difficult and fluctuating recovery). It must be at once remarked here, that this description of the effects of the subcutaneous injection of chloroform will be a surprise to many practical experimenters. Lallemand, Duroy, and Perrin stated that chloroform subcutaneously injected produced only local irritation, and no general anæsthetic effect. But as Charles Hunter and others had recommended this method of using chloroform for neuralgic and other painful disorders, we have personally tried its effects. In the solitary instance where we administered it to a human subject, violent local irritation and a small abscess were the only results; and we have heard the same story from several other practitioners. We repeated the experiment on several dogs, with similar results. However, the authority of Dr. Richardson will, of course, make a further investigation of the subject absolutely necessary.

M. Demarquay's investigations led him to very different conclusions from those of Liebreich. He experimented on rabbits, and, so far from observing any anæsthetic state, he found that these animals, though thrown into a most perfect sleep, were in a condition of *exquisite hyperæsthesia*. For this reason, and also because he found the breath of the animals distinctly impregnated with the peculiar odour of chloral, M. Demarquay disbelieves the asserted decomposition in the blood, and liberation of chloroform. He observed a remarkable injection of vessels, similar to that observed in section of the sympathetic. He found a diminution of temperature (after strong doses) of from half to one degree (Centg.). [Dr. Richardson finds a much greater difference of temperature, as much as 6° Fahr.] M. Demarquay concludes that the question of chloral involves many physiological problems which require to be carefully studied before the applications of chloral are determined, and the substance is used at the bedside of the patient.

Having given this general *résumé* of the agreements and differences between M. Liebreich and his critics, we must revert to the treatise of the former, which, whether right or wrong, is much too solid a piece of work to be lightly set aside. We wish to reserve our opinion entirely, as we hope to experiment afresh on the whole subject. But it is only just to M. Liebreich to expound his views with something like completeness, for his pamphlet is much more than the record of experiments upon one particular physiological agent. The question between him and Demarquay is particularly important. The evolution of chloroform within the circulation (as a result of the decomposition of chloral by the free alkali of the blood) which Liebreich asserts and Demarquay denies, would be most important if it were true (and be it remarked that Dr. Richardson confirms it); and it would also be interesting as a remarkable instance of the verification of pure chemical theory in physiological experiment. Dr. Liebreich points to his discovery, and to the parallel case of the purely chemical discovery (by Matthiessen and Wright) of the new therapeutic agent, apomorphia, as indications that the "search for remedies, including the chemical investigation of medicines and of the animal organism, must take its commencement from the retort." The challenge is notable; and the critic is bound to follow the author upon his own lines, in order to judge fairly how far he makes good his case. Some condensation, however, is absolutely necessary; and we have no space here for the reasons which we should otherwise advance against what we consider the too purely chemical arguments of the author against such researches as those of Professor Binz on the action of quinine. But apart from this and kindred subjects there is plenty of matter for consideration in Liebreich's treatise.

Chloral ($C_2 H Cl_3 OH$) may be obtained either by the method of Liebig or by that of Städeler; the former is preferred by Liebreich, as yielding a larger result than the other. (It must be understood, however, that at best the preparation of chloral is difficult, so much so that we fear the supply must, for some time to come, be limited.) The process of Liebig consists in passing chlorine gas through absolute alcohol to saturation, which is evinced by the cessation of development of hydrochloric acid, and the passage of chlorine unchanged, even when heat is applied. The crude chloral is treated with concentrated sulphuric acid, and the product, which boils at 201° Fahr., is collected. Agitated for a time with concentrated sulphuric acid, the chloral passes into the insoluble form, but on heating it again assumes the soluble form; it is a thin fluid of sp. gr. 1502. When mixed with water it develops much heat and assumes the shape of the white crystalline hydrate ($C_2 H Cl_3O + H_2O$), which sublimes unchanged on the application of slight heat. The crystals are easily soluble in water; they exhale a smell which, but for its pungency, would exactly resemble that of melons. The aqueous solution, treated with a free alkali, clouds at once, and resolves into formiate of the alkali, and pure chloroform: the latter falls to the bottom. This is the change which Liebreich expected to occur in the blood of animals to which the hydrate of chloral had been given; and he made the forecast that, as the process of decomposition would necessarily be gradual, the primary irritative effects so often produced by chloroform, when given in the ordinary manner, would not occur; while on the other hand the anæsthesia would be prolonged.

After reading carefully through the threefold series of experiments by Liebreich—chemical, physiological, and therapeutical—we must confess that the weight of evidence, especially taking into account Dr. Richardson's further researches, seems strongly in favour of the belief that chloroform, liberated by the free alkali of the blood, is the cause of the physiological phenomena. It seems quite certain that the smaller doses of hydrate of chloral produce sleep, and that the larger doses produce a semi-comatose condition, shading by imperceptible degrees into true anæsthetic narcosis. It is impossible to overlook the fact that, in severe and fatal cases of the action of the drug, the same successive order of paralysation of the various nerve centres occurs as in the case of chloroform. The main difficulty that remains is raised by the observation of Demarquay as to the occurrence of hyperæsthesia. But not to dwell on the fact that Dr. Richardson admits a transient stage of true anæsthesia, we would ask our readers to consider what is the true significance of hyperæsthesia, during a partially paralytic condition. Certain it is, that in a variety of conditions of depressed innervation, hypersensitiveness of the "endorgans" of the nervous system occurs as a transitional state between full vital activity and paralytic death. The occurrence of the so-called "hyperæsthetic" state may, therefore, be an unfortunate accident, tending to invalidate the practical utility of chloral as an anæsthetic for surgical operative purposes; yet it does not afford any satisfactory disproof of the general stimulant-narcotic character of the action of this substance. Abundant evidence is given, on the contrary, in the treatise of Liebreich, that moderate doses—about twenty-three grains subcutaneously injected—have an admirable effect in producing sleep in states of restless delirium. And in spite of the negative evidence of Demarquay, one can hardly doubt that larger doses do produce true paralytic narcosis, which, if carried far enough, ends in death, first of the lungs, and then of the heart. The exceedingly regular and uniform *hypnotic* effect of *moderate* doses is not only not denied, but is expressly asserted, by Demarquay. The whole evidence seems fully to justify the practical utility of the following formulæ, which are given by Liebreich at the end of his pamphlet:—

1. ℞. Hydrat. Chloral. gr. 38; Aq. dest., Mucil. gumm. arab. āā ℥ss. Make a draught. To be taken as an ordinary hypnotic.

2. ℞. Hyd. Chloral. gr. 62; Aq. dest., Syr. Aurant., āā ℥ss. Mix. One dessert-spoonful to be taken at bedtime.

3. ℞. Hyd. Chloral. gr. 70 ad 130; Aq. dest., Syr. Aurant., āā ℥ss. A draught to be given in delirium tremens.

4. ℞. Hyd. Chloral. gr. 31 ; Aq. dest. ℥v. ; Syr. Aurant., Mucil. gummi āā ℥ss. Mix. A dessert-spoonful to be taken every hour (sedative).

5. ℞. Hyd. Chloral. gr. 80 ; Aq. dest. ʒij. ♏36. Mix. A teaspoonful in a glass of wine, beer, or lemonade, as a hypnotic.

6. Hyd. Chloral. gr. 80 ; dissolve in sufficient water to make 10 cubic centimetres (160 minims), 15 to 60 minims to be injected subcutaneously as a hypnotic.

These formulæ must of course be taken subject to further experience, as the author himself freely admits. But it seems to us that they promise particularly well. Especially with regard to the treatment of delirium tremens and maniacal delirium, we would remark, that there seems a great probability that chloral may become a very valuable remedy. In both these pathological conditions there are many *à priori* arguments in favour of the use of chloroform ; and even in its ordinary mode of application the like remedy has sometimes proved very effective. But there is always an element of uncertainty and danger in the employment of chloroform by inhalation, because a very slight error in the mode of administration may quickly produce paralysis of the heart, which is instantly fatal ; while, on the other hand, the administration of chloroform by the stomach is uncertain and unreliable, even when it is not dangerous. But the slow evolution of chloroform within the blood-vessels (supposing, as we do, that this is sufficiently demonstrated) might well be expected to produce all the sedative and hypnotic effects of the remedy, without any of the dangerous effects upon the heart which are the *bête noire* of chloroformists.

As we have already remarked, however, it is not merely the immediate practical results to be derived (as it is hoped) from Liebreich's research that gives it its peculiar interest. In the able introduction to his work, the author lays down certain fundamental principles of therapeutical research, which, whether they be ultimately accepted or not, may well give rise to serious reflections. He complains that ordinary observers habitually make the mistake of attempting to trace through the organism the action of substances, of whose behaviour within the body we know no more than is shown to us by the final products of decomposition as they appear in the excretions, and which are in fact only the last term of a series of changes of which we know none of the primary stages. Doubtless this is true ; and indeed Liebreich himself offers a striking illustration of this statement. He names as the most promising subjects for therapeutical investigation the actions of aldehyde, of alcohol, and of acetic acid upon the body. But to take the case of alcohol only, how various and how conflicting are the theories of its physiological action which have been propounded ! It is only quite recently, after many a hard-fought fight, that we have been enabled to assert positively that alcohol is oxidized within the body; and even now those who know most of the question would hesitate to state positively that alcohol and its congeners "zu den End-produkten oxydirt zerfallen;" for in truth none of the products of its decomposition have been clearly traced and identified, though their existence, in some shape or other, is rendered certain by a multitude of considerations. Be this as it may, however, it is impossible not to feel a genuine admiration for the stroke of genius which is indicated in the prediction beforehand, from purely chemical considerations, that chloral would yield up chloroform to the blood in precisely the form in which it might be expected to work the maximum of good and the minimum of mischief. We heartily recommend our readers to study the research of Liebreich, not in secondhand quotations, but in the original. And we shall look forward with eager expectation to the author's fulfilment of his promise to follow up his latest investigations by an inquiry into the action of the kindred trichloracetic acid and its salts.

A number of reviews are unavoidably postponed from the pressure on our space.—Ed. Practitioner.

Clinic of the Month.

On the Treatment of Scurvy.—Dr. Duckworth remarks that there is only one disease of which it may be truly said that we know, not only its exact cause, but its certain remedy, and that consequently it deserves more attentive consideration than it usually obtains. He describes a case of land scurvy, now rarely met with, occurring in a blacksmith, aged 49, from Buckinghamshire. The treatment which proved successful was as follows. He was ordered full doses of chlorate of potash in decoction of bark, with a diet of eggs, beef-tea, and milk, cabbage for dinner, and fresh lemonade as a drink. Some port wine was also given. As no marked effect on the gums followed the use of chlorate of potash, they were ordered to be rubbed twice a week with solid nitrate of silver, in accordance with a plan found effectual by Dr. Buzzard, and recommended by him in his article on Scurvy in Reynolds's "System of Medicine." This seemed to prove of considerable service, and the man became able to chew soft food again. The vibices faded away and the joints became supple. He was next put on steel mixture. At the end of twenty days of hospital treatment he was rapidly improving. (See *Lancet*, Aug. 28, 1869.)

Camphor in Albuminuria.—In a paper with this heading Dr. Osbaldeston calls attention to the beneficial effects produced by this drug in cases of albuminuria arising from various causes. One of his cases was the subject of scarlet fever with severe affection of the throat, and typhoid fever. Chlorate of potash, chloric ether, and dilute hydrochloric acid were administered in camphor mixture with some advantage, but on the ninth night convulsions set in of a severe character. A blister was applied to the nape of the neck, and the following mixture ordered:—Camphor, half a drachm; chloric ether, one drachm; compound tragacanth powder, one drachm; peppermint water to eight ounces; a sixth part to be taken every two hours. At the time of commencing this medicine three-fourths of the quantity of urine tested was solid albumen, but in the course of the fourth day it had fallen to one-half, on the fifth day to one-fourth, and on the seventh day it had entirely disappeared, whilst there had been no return of the convulsions. The quantity of camphor administered was reduced to one-half on the third day. Iron and calumba were subsequently given, and the patient recovered. In a second case, in which the albuminuria accompanied erysipelas of the head and face, and was attended with convulsions, similar treatment promptly reduced the amount of albumen present, and being followed by the administration of steel gradually restored the patient to health. In a third case the albuminuria accompanied synovitis of one knee-joint, and a similar treatment was followed by like results It is just noticeable that in all these cases large blisters were applied, and it is possible that the albuminuria was the result of the absorption of the essential principle of the fly, and that with the cessation of the blistering the albumen in the urine gradually disappeared. (See *Lancet,* Aug. 28, 1869.)

Treatment of Abscess of the Liver.—Dr. H. Blanc records a series of cases of this disease in which successful results were obtained by the application of caustic issues, made with Vienna paste, over the region of the liver. In three of them the abscess burst through the lungs, and in one instance several successive abscesses formed in the substance of the liver. The men were all weak and debilitated, all of them having either suffered formerly from hepatic disease, or just recovered from some serious illness—all consequently cases very unfavourable for absorption to take place. Nevertheless that result was obtained. Diuretics, mineral acids, tonics, &c., were generally employed as useful auxiliaries, and care was taken to support the strength of the patients by a generous diet. He gives the following details of the preparation of the Vienna paste, its mode of application, and the ulterior treatment of the cauterized integuments. The Vienna paste, "potassa cum calce," P. L., is composed of caustic potash, ℥iss ; quicklime, ℥ij ; mixed together whilst warm, and kept in a well-stoppered phial. To use the powder a few drops of alcohol are added to the quantity intended to be employed, and made into a moderately soft paste. As soon as made the paste should be applied by means of a small spatula or blunt knife. Each application should be of the size of a shilling, and of about three times the thickness of that coin. The paste should always be applied to the intercostal spaces under the false ribs, or on the epigastrium, as the case may require, but never on the ribs themselves ; the application should be allowed to remain for fifteen minutes. When it is taken off, the surface must be gently washed with tepid water acidulated with vinegar. A warm linseed poultice, renewed every second hour, should be placed over the issues for the next twenty-four hours, after which square pieces of adhesive plaster, cut in the shape of a Maltese cross, should be applied over them, and renewed every morning.

If, however, a more rapid action be required, the poultice should be continued for several days. In from ten to fifteen days after the application the eschar falls off, and the granulations rapidly reach the surrounding integument. The granulations must be cauterized with nitrate of silver, early and daily, otherwise they have a tendency to protrude. (See *Lancet*, Sept. 4, 1869.)

The Antiseptic Cerecloth as a Covering for Wounds.—In a paper read before the surgical section at the annual meeting of the British Medical Association at Leeds, Mr. Lund called the attention of the profession to a novel kind of dressing for wounds, consisting of cloth or thin calico saturated with waxy matter in the form of solid paraffin, to which are added a little oil and wax with carbolic acid in certain proportions. Mr. Lund claims for this cloth the double property that, when placed over a wound, ulcer, or the opening of an abscess, it not only serves to exclude the air as an impervious dressing to the part, but it constantly emits from its surface the vapour of carbolic acid, as it is disengaged by the heat of the body, and so forms an antiseptic atmosphere around the wound. It is made of three degrees of strength, containing one-fourth, one-sixth, and one-eighth of carbolic acid. The strongest quality is needed in the management of the early stages of a wound. The others are more useful while cicatrization is going on. To illustrate how effectually the vapour of carbolic acid thrown off from this cerecloth at ordinary temperatures will prevent putrefaction, Mr. Lund placed some pieces of fresh meat in several wire cages of a cubical form, covering each with the cerecloth and fixing it loosely round by an india-rubber band. This was done on the 12th of June, 1869, and again on the 23d of the same month, and on opening one of the packets in the last week in July the piece of meat was found to have remained unchanged so far as putrefaction was concerned; although, from the time it had been kept in a warm room, it was quite dry and hard; other portions not so protected, but otherwise exposed to the same condition, had become putrid in nine days. (See *British Medical Journal*, Sept. 4, 1869.)

The Treatment of Organic Stricture of the Urethra by Rupture.—In a paper communicated to the *British Medical Journal* Dr. Macleod gives the details of his experience with, and speaks in the highest terms of, Mr. Holt's modification of Perrève's instrument, and observes that Mr. Holt has not overstated his case when he terms his method facile, speedy, prompt in its effects, and free from danger. Dr. Macleod found that in many of the cases of stricture coming to him in private practice the dilator could at once be introduced almost without any precautionary measures; but that in many hospital cases of long standing, when there were long, hard, and often multiple contractions with perinæal fistula, occurring in feeble and irritable patients, any interference at once produced the most violent urethral fever, followed by the most intense prostration, and it was only by perseverance and caution that any real progress could be sought for. In such cases he recommends confining the patients to bed for some days; attention to the bowels; examination of the urine in case of albumen or pus being present; careful regiminal treatment, with abundant mucilaginous drinks to dilute the urine; hot hip baths at night, and finally, after clearing out the bowels on the morning of the operation, the injection of half a grain of acetate of morphia into the perinæum, and the administration of chloroform. In some cases quinine may be given for some days in anticipation of the operation, and an opiate repeated a few hours afterwards with some hot brandy and water, which will prevent in all probability the supervention of prostration and rigors. (See *British Medical Journal*, Sept. 18.)

Sleeplessness in Infants.—In a paper devoted to this subject, Dr. Eustace Smith enumerates the following causes:—Acute diseases; hunger; injudicious feeding; cold feet; hereditary syphilis; worms; habit; and exhaustion of nerve-force. The treatment of all of these conditions is obvious enough, and we only extract them as they may possibly be suggestive. (Ibid. August 28.)

Treatment of Cancrum Oris.—After giving a description of the symptomatology and ætiology of the disease, Dr. Glynn observes that in its treatment the local application of the actual cautery, or of strong corrosives, has always been recommended, in order—1. To thoroughly disinfect the surface by destroying all dead matter; 2. To check the spread of the gangrene by destroying adjacent lesion; 3. To excite by stimulation a more healthy inflammation. Dr. Glynn is of opinion, however, that before applying escharotics, the general condition of the patient should be consulted; for if the patient be in a low and typhoid state, the caustic treatment could only be productive of evil by irritating, and could not excite healthy inflammation. Nitric acid might be of great service at the commencement, or when there was not much depression, but its repeated application, as recommended by some, would only be productive of evil. By the use of powerful antiseptics discovered at the present day, all dead matter could be thoroughly removed from the diseased surface. The modern constitutional treatment is by tonics and by stimulants. Dr. Glynn has met with cases which were successfully treated by the use of chlorate of potash wash, and the administration internally of ammonia, chlorate of potash, and bark, with beef-tea, wine, and brandy. In one case two relapses occurred; one from exposure whilst a dressing was being removed, and on another occasion after the removal of necrosed bone. (See *Brit. Journ. of Dental Science*).

Treatment of Scabies.—Mr. Jonathan Hutchinson, in his "Norwegian Notes," states that there were a great many cases of scabies in the hospital at Bergen, where the cure of the disease seemed to constitute a sort of specialty. Dr. Holmboes' treatment is as follows:—The patient is first put into a warm bath, and is afterwards well rubbed with the tar and soap ointment (equal parts of common tar and green soap). The inunction is repeated two or three times a day, and the cure rarely takes more than a few days. Sometimes troublesome eruptions remain afterwards, and in a few cases it is found requisite to resort to sulphur. The same plan is adopted both for young and old. (See *Medical Times and Gazette*, August 28.)

Therapeutical Value of the Sulphites.—In a valuable paper on this subject Dr. Miller gives the results of his extensive experience at Dundee, on the effects of the sulphites in typhus, comprising no less than 884 cases, of which 161 were treated with the sulphites, and the remainder without. He shows that the total mortality presented the same ratio in both. The sulphites appear to have produced no effect whatever upon the issue of the cases, either favourable or the reverse. Neither during the progress of those cases which recovered under its employment was there any amelioration perceptible in the concomitant symptoms and complications; nor in those cases in which the range of the temperature was regularly noted by means of the thermometer was any effect observable, either as regards the degree of elevation of temperature, or the period of the case at which the defervescence was complete. The facts elicited, he thinks, abundantly prove the uselessness of annoying such patients with a disagreeable draught, for the taste is sufficiently nauseous. In cases of purulent infection or septicæmia, on the other hand, such as are common enough in midwifery practice, they possess a great value. They may be employed with advantage, for instance, in cases of abortion, in which the ovum has been imperfectly expelled, and in which portions of the placenta are left adherent to the uterus, which shortly become putrid. Also in cases of adherent placenta under these circumstances, the woman may be placed on half-drachm doses of the sulphite of magnesia, every fourth hour. To be of any avail Dr. Miller believes the remedy must be given in considerable doses, from half a drachm to a drachm every fourth or sixth hour; and still more that its use must be commenced early in the case, either before or immediately on the appearance of the constitutional symptoms. (See *Edinburgh Medical Journal*, Sept. 1869.)

Treatment of Pruritus Pudendi.—Every one knows how distressing and how obstinate this complaint. is. A thousand different remedies have been suggested for this dermic neuralgia, whether accompanied with papules or not. In treating of this subject in a recent work, entitled "Traité élémentaire des Maladies des Femmes," M. le Dr. Elleaume enumerates at the end of his book the means which have appeared to him most efficacious in its alleviation or cure. Dr. Elleaume first alludes to ablutions frequently practised, and to injections of a watery solution of starch. After each ablution the interior of the vagina should be powdered with starch, mixed with from one-thirtieth to one-eighth of its weight of nitrate of bismuth. He alludes, in passing, to a formula recommended by M. Hartmann, stated to have good effects, consisting of a decoction of white hellebore in water. On other occasions he has seen benefit derived from the infrication of the following ointment repeated several times a day:—Acetate of morphia, 1 part; lard, 60 parts; chloroform, 8 parts; and oil of sweet almonds, 40 parts; to which in some cases a little carbonate of soda may be added. If this fail, the lotion recommended by Trousseau, consisting of 1 part of carbonate of potash in 12 of water, may be tried, or a lotion containing 1 part of corrosive sublimate, a little alcohol, and 17½ parts of distilled water. In the former case a dessert-spoonful, in the latter a tea-spoonful, may be added to a pint, and subsequently to half a pint, of water, and frequently injected as a lotion, to be used three or four times a day. In very rebellious and refractory cases, good results may sometimes be obtained by employing a solution of nitrate of silver, in the proportion of 1 part of nitrate of silver in 210 of distilled water; and M. Dievdonné has even employed light cauterization of the clitoris and adjoining parts with the pure nitrate of silver. Lastly, M. Elleaume states he has sometimes triumphed over very bad cases by the application of compresses saturated with a strong solution of perchloride of iron. (See *Journal de Médecine*, July 1869.)

Extracts from British and Foreign Journals.

Treatment of Puerperal Convulsions.—M. Bailly, in a long and carefully-written article on this subject, which is about to appear in the "Nouveau Dictionnaire de Médecine et de Chirurgie," divides the treatment into curative and preventive. The means adopted with the former object in view he subdivides into the medical and the surgical. The value of medical treatment in puerperal convulsions, he remarks, is considerable, and great importance must be attached to the fact so strongly insisted on by Paul Dubois, that pregnancy only gives rise to convulsions indirectly, and after primarily inducing uræmia, which, in fact, is the disordered condition requiring to be combated. The evacuation of the uterus is doubtless a desideratum and favours the cessation of the attacks, but it does not in the greater number of cases cause their immediate suspension, nor is the extraction of the child always possible or inoffensive. The pathology of uræmia is obscure, as well as its medical treatment, when it occurs as an accompaniment of the puerperal state; but two means have been found empirically to be of much greater value than the rest, to wit, the abstraction of blood and the employment of anæsthetics. As regards the first of them, M. Bailly ranges himself with the great French authorities, Baudelocque, Mauriceau, Dubois, and Madame Lachapelle, and pronounces decidedly in favour of moderate abstraction of blood, the amount varying according to circumstances from 30 to 60 ounces. M. Bailly entertains no doubt respecting the value of anæsthetics, though he does not advise that they should be carried to so full an extent as recommended by M. Horand, of Lyons, holding that they do not possess any action on the primary cause of the affection, but simply act as palliatives, diminishing the abnormal excitation of the spinal cord, produced by the circulation of unhealthy blood through it, and by the vulvo-uterine pain. By their means, however, the violence of the convulsions is diminished, and the dangers attendant on cerebro-spinal congestion are in great measure removed. When chloroform is used, it should be administered in the simplest mode, and, in regard to time, by preference at the moment of agitation, which announces the return of the paroxysm. The patient should be rendered quite insensible, and sleep may be maintained for four, six, or eight hours. In one instance a woman was kept for a whole night under the influence of chloroform with a happy result. Besides the foregoing means, M. Bailly, in common with all other authors, strongly recommends the employment of purgatives, as of calomel and jalap, and of glysters; but objects to the use of emetics, on account of the danger of the entrance of the matters vomited into the trachea during a paroxysm, thus inducing suffocation. Vapour baths, he thinks, can only be used in cases where the attacks succeed one another at periods of several hours, with lucid intervals. Sinapisms, blisters, and dry-cupping, he thinks, are all of doubtful value. Little benefit can be expected from antispasmodics. The patient should be placed in the middle of the bed; the surgeon should not forget to draw off the water if requisite. Lastly, precautions should be taken to prevent the patient from biting the tongue. (*Bulletin général de Thérapeutique*, Aug. 30, 1869.)

Treatment of Puerperal Convulsions.—In a very brief but intelligently-written communication to the Philadelphia *Medical and Surgical Reporter*, Dr. H. L. W. Burritt gives the record of twenty-five years' experience in this disease, and concludes by saying that his observation has made him a decided believer in bleeding, as a "sheet-anchor," with chloroform and turpentine, which is a remedy not to be despised. The causes, he thinks, may be ranged in this order (constipation being premised):—Mental, one half; protracted labour, one fourth; and the rest various, as albuminuria, &c. "I cannot see," he remarks, "any reason why a physician, who believes in Harvey, should dread taking blood from the arm more than from the nose, unless fear of fashion has him fast by that organ."

Emplastrum Mercuriale in Cutaneous Affections.—This remedy it appears is largely employed by V. Hebra in the local treatment of cutaneous affections, and especially in those which are characterised by a deposit of some diseased product in the skin. The composition of this remedy is shown in the following formula:—

℞. Hydrargyri, ℥iij.
Olei terebinthinæ, ℥iss.
Emplast. diachylon, ℥xij.—M. ft. Emplastrum.

It is most commonly used in the syphilides. In hard chancre it is preferable to all other local applications, and can be conveniently used when spread on linen and wound round the penis. It is very useful in enlargement of the inguinal glands previous to the formation of an abscess. It is indicated in the squamous and ulcerated forms of cutaneous syphilides, where its value may be shown by covering one portion of the affected skin with the plaster, and leaving another exposed, when it will be found that the former soonest recovers. It is very advantageously applied to the condylomata of children, and in psoriasis palmaris and plantaris; in rhagades it may be mingled with a little linseed-oil. Dr. Neumann uses the same remedy in the obstinate form of cutaneous disease termed acne indurata, and recommends it strongly in sycosis. Finally, it constitutes an excellent remedy against that most obstinate and distressing affection termed lichen urticatus chronicus. (*Der praktische Arzt*, 7, 1869.)

Treatment of Varices of the Lower Extremities.—Prof. Jüngken, whose experience has been large, considers that the best treatment for the radical cure of varices consists in the injection of the cavity of the dilated vessel with liquor ferri sesquichloridi. It is most applicable to those cases where there are a few large swellings: it is less appropriate when there is a chain of smaller swellings. Even in these, however, one or more of larger size may be singled out and injected, care being always taken that the vein is not transfixed and the liquor injected into the connective tissue. A second point to which attention is indispensable is, that the varix about to be injected should be carefully compressed on both sides by a compress roller, or by a tourniquet, or, when it is difficult to apply these, by means of the finger; and the pressure should be continued till the blood is completely coagulated and forms a provisional thrombus. No general rule can be given in regard to the quantity of the solution of iron requisite to be injected, but whatever the quantity used, it should be thrown in very slowly, with intermissions of several minutes, and without removal of the pipe from the cavity of the vein. The varix, when the injection has been properly and carefully performed, should have the consistence of a soft boiled egg. The pipe may then be swiftly removed and a small quantity of charpie applied to the little wound. After complete coagulation has taken place blood ceases to flow, and the tourniquet may then be removed. The leg should be carefully raised and kept perfectly quiet; and, according to circumstances, lead lotions, or, if requisite, leeches and salines, may be administered. Recovery often occurs with great rapidity. (*Berliner Wochenschrift*, 1869, 7.)

Hypodermic Injection of Solution of Mercury.—M. Bouilhon gives a formula for a solution of mercury which is free from the ordinary disadvantages attending the injection of the soluble salts of this metal, such as suppuration, sloughings, &c. The salt he recommends is a double compound of iodide of mercury and sodium, the watery solution of which, in the proportion of 1·66 to 100 of water, can be injected subcutaneously to the extent of twenty drops, with a pure silver syringe, without danger. The salt is obtained by the saturation of a boiling hot solution of iodide of sodium (1:4) with iodide of mercury, and subsequent dilution with twenty times its weight of cold water. Iodide of mercury is precipitated, whilst the double salt remains in solution. The crystals are evanescent, and possess a yellow colour when hydrated, but assume a lively red tint when dried. (*Centralblatt*, No. 35.)

Carbolic Acid as a Febrifuge.—M. Chevreul has reported to the French Academy of Sciences that Drs. Jessier and Barrant, in the Mauritius, have been trying the effect of carbolic acid in twenty-seven cases of obstinate intermittent fever, in which quinine and iron had been employed without any good results. They are stated to have injected three-fourths of a grain of the acid dissolved in water, hypodermically, with most satisfactory results. (Ibid.)

Treatment of Dysentery by large doses of Ipecacuanha.—Dr. Yandell remarks that the three methods of treating dysentery most practised by physicians in the valley of the Mississippi are by opium, by salines, and by quinine; but that there are some cases in which, when these methods have been tried and have failed, a successful issue may be obtained by the administration of large doses of ipecacuanha. The quantity of the powder given amounted to from ten to twenty grains, the action of the medicine being in some instances guarded by the hypodermic use of morphia, or, which he regards as still better, of opium. He believes that peppermint-water is a better vehicle than the tincture of orange-peel for exhibiting the powder. In the second case which he records the patient was treated with salines on Sunday, acids on Monday, quinine on Tuesday, opiates on Wednesday, and astringents on Thursday, all pushed to the full without benefit—rather sharp work for the intestinal mucous membrane. On Friday and the two following days she had ipecacuanha, with the hypodermic injection of morphia; but this patient succumbed to the disease. In several other cases, however, a good result followed its employment. (*Western Journal of Medicine*, iv. 8, 473.)

The Application of Electricity in Hydrocele and Amenorrhœa.—M. Friedenthal states that he completely dispersed the hydrocele in five cases by the application of a galvanic current, and that after eight months no relapse had occurred in any of the cases. The current was applied in the usual way.

He also reports a case of amenorrhœa occurring in a woman aged thirty, who had experienced various neuralgic affections, and who had never menstruated in her life, though the cause of the disease is not mentioned. Very various means of treatment had been employed without effect. The disease yielded at last to the application for two months uninterruptedly of galvanic electricity and faradisation. The former was applied from the sympathetic to the head, and from the lumbar vertebræ to the inner surface of both thighs; the latter was applied in the form of a secondary current with dry rheophores. Abundant menstruation set in at the expiration of the above-named period, and recurred regularly from that time forth.

Cutaneous Affections caused by the use of Bromide of Potassium.—Bromide of potassium has been so largely employed of late years in the treatment of a great variety of diseases, that it is well to bear in mind that it may itself induce certain cutaneous affections, and these have been particularly noted by M. Voisin. He enumerates no less than five; namely, 1. An eruption resembling acne, affecting principally the face and chest, accompanied by more or less itching, and rarely with fever. This may occur when not more than a drachm has been ingested. 2. Amongst ninety-six epileptics treated with bromide of potassium, there occurred six times large, elongated, rose or cherry-red swellings, half an inch or more in diameter, on the surface of which collections of pustules, also resembling acne, were developed. The swellings occurred invariably on the lower extremities, and were extremely painful. They healed very slowly, thick crusts forming, leaving indelible yellow spots, covered with scales. 3. On two occasions an exanthematous eruption resembling erythema nodosum appeared, though unaccompanied by any febrile symptoms, which lasted for more than six months. 4. Very troublesome furunculosis, or succession of boils with carbuncles on the neck. 5. In one instance an eczematous eruption appeared on the legs, which lasted for a year, and was accompanied by profuse secretion. In this instance, also, the greater part of the head was affected with pityriasis. The treatment recommended by M. Voisin, as generally applicable for these cutaneous affections, consists in the administration of alkaline drinks and baths, sudorifics, local emollients, &c. (*Centralblatt*, No. 37.)

On a Means of Prolonging the Narcotic Effects of Chloroform.—It is sometimes a matter of importance to maintain the narcosis of chloroform for a considerably longer period than the state of the respiration and pulse renders safe or advisable under the circumstances. M. Uterhart recommends the subcutaneous injection of morphia. He was led to its employment from experience of its efficacy in the case of a drunkard, in whom, after the hypodermic injection of morphia, it became requisite to employ chloroform. The excellent results obtained induced him to use it in four other cases, half a grain of morphia being methodically injected a little while before the commencement of the chloroform inhalation. In experiments on dogs, which it is well known bear chloroform badly, narcotism can be admirably effected in this way; a fact supported by the observations of C. Bernard and Radziejewski. A period of from six to ten minutes after the injection of the morphia should be allowed to elapse before commencing the inhalation of chloroform, to permit of the absorption of the morphia. (*Centralblatt*, No. 36.)

Asphyxia from Chloroform successfully treated by Electricity.—An interesting case of the advantages of the timely and appropriate use of electricity has lately occurred at Ulm. A young man, aged 20, suffering from toothache in the early morning, poured about a drachm and a half of chloroform on a handkerchief, and laid down on his left side, with the handkerchief before his nose and mouth. The boy who called him at the usual hour found him incapable of being aroused, not apparently breathing. At 6.30 A.M. Dr. Volz found him of a cadaverous colour, with closed eyes, pupils contracted, lips pale, lower jaw moveable, tongue retracted, pulse regular, weak, and slow; respiration feeble, with rattling in the throat; general anæsthesia. The tongue was brought forward, the feet were brushed, spirit of mustard rubbed in, and burning sealing-wax dropped on the chest, with the object of exciting sensibility, but without effect; the heart's action became weaker, and the breathing finally ceased. Artificial respiration was now undertaken with slight but very transitory improvement, and the respiration again completely stopped, and the pulse became scarcely perceptible. Dr. Volz now sent for his induction apparatus, and placed the electrodes, the disks of which were armed with small sponges, on the two sides of the neck, at the external border of the sterno-cleido-mastoïdeus, near the lower part of the muscle. After the current had been once or twice opened and closed again, deep inspirations occurred, the pulse became more perceptible, the face reddened, coughing occurred, and the mouth became filled with bloody mucus. Dr. Volz then placed an electrode on the pit of the stomach, the other remaining over the right phrenic, and each time the current was closed a full inspiration occurred. Sensibility to the electric stimulus soon displayed itself; the eyes opened and vomiting took place. The breathing from this time (8.30) forward was regular. The patient was brought into a warm room, and his cold extremities covered with warmed clothes. Vomiting recurred once or twice before midday, and consciousness was gradually restored, but the greater part of the two following days were spent in sleep. In this instance there is reason to believe the narcosis had endured for five or six hours, and restoration to life was undoubtedly effected by the rhythmical excitation of the phrenic nerves, a plan that was first recommended by Ziemsen, and which certainly deserves to be systematically practised in every case of apparent death from asphyxia. (*Der praktische Arzt*, July 1869.)

Care of the Teeth.—From a work on the hygiene of the mouth, by Dr. Kuhn, we extract the following:—Sugar and saccharine compounds are very injurious to the teeth, as are also green and acid fruits. Alcoholic liquids are harmful. Hot and cold things must be avoided. The mouth should be rinsed out every morning with warm water to which a few drops of eau-de-Cologne or tincture of arnica have been added.

Treatment of Priapism.—Dr. Hargis gives the details of an interesting case of idiopathic priapism, or, as he terms it, priapismus sine concubitu persistens, and observes that the obscurity of the causes of this form of priapism, its intractable nature, the extreme pain which accompanies it, and its not *very* infrequent occurrence, attach considerable interest to its history and treatment. Nevertheless it is scarcely more than alluded to in our systematic treatises either on surgery or medicine generally, or in those which specially treat of the diseases of the genito-urinary organs, and the cases which have been placed on record are remarkably few. In most of these cases it occurred immediately after copulation, and resulted apparently from the extravasation of blood into the lacunæ of the fibrous texture of the penis. In some instances incisions have been made, sometimes with and sometimes without success. In other instances, vigorous antiphlogistic measures have been employed, as blood-letting, leeching, iced applications, cold baths, &c., and again sometimes with speedy and sometimes with very slow recovery. In Dr. Hargis's case the man was a mulatto, aged 28, and addicted to excessive venereal indulgence. The attack came on, or rather was continuous with, the act of copulation; great pain was experienced, increased on pressure; no disease of the prostate, no vesical irritation, and no entozoa in the rectum were present. The man was at once placed on fifteen grains of bromide of potassium, every two hours. After three doses the pain was relieved, and the organ was flaccid but sore, and he was ordered to continue the solution in doses of five grains every four hours. On the following day he was well. Two months after he had a repetition of the attack under the same circumstances, and was again cured by similar treatment, though, from the accidental absence of Dr. Hargis, he had been affected for fourteen hours, and had undergone other treatment, without relief. The influence of the bromide over spasm and the reflex action of the nervous centres is here very unmistakably shown, and as Dr. Hargis remarks, in the second attack it is extremely probable that, had not the disease been controlled by treatment, some of the accidents, inflammation, extravasation, &c., that have been observed in other cases, would have occurred sooner or later. (*The New Orleans Journal of Medicine,* July 1869.)

The following plan has been repeatedly used with success in strangulated hernia:—Place the patient in most convenient position for taxis, inject hypodermically, immediately over point of obstruction, twelve drops of Magendie's solution of morphia; cover the patient's face with a towel, and pour over the tumor, from a considerable elevation, a bucket of very cold water; push the bowel back before the shock is recovered from. This plan will frequently succeed when all others have failed. (*Baltimore Medical Bulletin,* vol. i. 16.)

Notes and Queries.[1]

THE TREATMENT OF NEURALGIA.—Dr. E. Woakes writes to us as follows:—

"In reference to the question raised by Dr. Chambers (*Practitioner*, p. 70), respecting the unsusceptibility of the skin to the blistering effect of cantharides in certain forms of neuralgia, I would observe that up to a very recent period I was frequently applying blisters for sciatic and brachial neuralgias, &c., but cannot recall a single instance of failure to produce ready vesication. I have no experience of its behaviour when hypochondriasis is superadded.

"I venture to append some brief notes of a case illustrating the use of *ergot of rye* in neuralgia, which, during the past two years, has in my practice superseded the use of blisters in this disease. Employed in the first instance[2] to combat the neuralgic complications of herpes, its more than anticipated success, when so exhibited, induced me to give it to patients presenting every variety of neuralgic disease as they happened to occur. The success, on the whole, has been great, though failures were numerous; especially was this so when, in ordinary tic, a carious tooth, or some equally manifest exciting cause, existed. I believe it sometimes failed through a timid use of the drug, though increasing experience assures me there is scarcely any limit to its safe employment. I anticipate the best results from its use in sciatica, having recently had three severe cases in *males* who recovered rapidly under its use.

"*Feb.* 23, 1869.—Mrs. B., æt. thirty-three years, consulted me respecting a luxuriant crop of shingles affecting the right side. The rash extended from the middle of the sternum in front, crossing the lower half of the right breast (she was suckling her fourth infant at the time) to the spine posteriorly. Nothing was prescribed, as there was no special symptom.

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[1] The Editor, being desirous of making this department a useful medium of communication between practitioners, will be glad to receive short notes on theoretical or practical points in therapeutics,—brief jottings on those numerous queries which suggest themselves from time to time to a medical man as he "goes his rounds," but which he has neither the time nor, in some cases, the opportunity of answering. The Editor does not pledge himself to reply to every question addressed to him, but he hopes to make the "department" the means of supplying the information required; and this he can only effect by the hearty assistance of his readers.

[2] See my paper, which was noticed in the *Practitioner*, p. 257, vol. i.

"*Feb.* 27.—Since yesterday has been suffering acutely from pain in the back. It was evidently neuralgic, and most severe in its character. It commenced at that dorsal vertebra at which the herpetic zone terminated, and extended downwards for about three inches, the situation suggesting the posterior roots of the subjacent spinal nerves as its probable site.

"She was prescribed—Ext. ergotæ liquid. ♏xv; ex aquæ ℥ij; to be taken every three hours.

"*Feb.* 28.—Very much relieved. She volunteered the statement that the pain began to leave her after taking two doses of the medicine. To continue the medicine, as there is still slight pain in the same region.

"When seen a day or two afterwards, she was quite well. There was no relapse.

"I trust this brief statement may induce an extended trial of ergot in nerve affections, and so lead to definite ideas respecting its applicability."

PHYSIOLOGICAL AND THERAPEUTIC EFFECTS OF THE YELLOW OIL OF SANDAL-WOOD.—Mr. Robert Park, of Great Stanmore, writes on this subject as follows:—"An experience of some twelve years in the use of this oil should enable me to speak with some degree of certainty as to its therapeutic value. The purest specimens are of an amber colour, although I have seen some sent out from good London houses nearly pale. Its smell is its most diagnostic property however. This is strong, pungent, penetrating, and most persistent; its taste is likewise strong and warmly aromatic, leaving behind it a feeling of dry astringency in the fauces.

"Its physiological effect is generally to constringe all the mucous tract throughout the body. Thus the immediate effect of a dose of it is to cause dryness of the fauces and thirst. During its digestion and absorption this thirst is kept up and intensified in some cases: in all if a large dose be given (*i.e.* ♏xv or ℈j), and in many with a merely legitimate dose, it produces a feeling of 'drawing together' of the bowels, sometimes verging on colic. Its action is somewhat more powerfully felt on the kidneys. At a period varying from two to three hours after it has been taken, a sense of fulness is experienced in both regions. This sense of fulness, or weight, or tension lasts for a period varying from ten to twenty minutes.

"Its therapeutic action cannot be altogether explained by a study of its physiological effects. This, however, will no doubt form the subject of future experimentation. Hitherto the drug has only been used in the treatment of one complaint, but I believe it will soon be found to be a valuable remedy in other diseases. Its action in the disease to which I refer, viz. blennorrhagia, seems to be quite specific. In fact, if I believed any medicine was really and truly entitled to be called a specific in reference to any particular disease or complaint, I would say this one had earned the title *par excellence.* It does not increase the flow of urine, neither does it seem to exercise its specific influence by or through the urine, for I have noted cases where the blennorrhagic discharge and urethral pain have been very considerably modified between the first dose and the first micturition afterwards. It does modify the urine also, however, so as to make it very soothing and grateful to the inflamed urethra.

"I believe the late Dr. E. Milner, of Glasgow, to whom I served my apprenticeship, was the first in this country to use it for the cure of blennorrhagia. At all events, if he was not the first to discover its specific virtues, he was the first to introduce it extensively into medical practice. Like all other remedies, it has been much abused. Those who have heard of it for the first time, and have embraced it as an infallible cure for every case, have of course been disappointed. I say of course, for none of our drugs are infallible. An extensive experience, however, enables me to say this for the Ol. Sant. Flav., that for the cure of blennorrhagia it is by far the most safe and reliable drug we have in or out of the Pharmacopœia. The cases in which it is most efficacious are not those of sickly patients with thin muco-aqueous discharges, but those of full plethoric subjects with thick purulent discharge, and even considerable scalding. Given in a case of this kind as soon as possible after the appearance of the discharge, the effect is simply very gratifying both to patient and doctor. The discharge disappears, and the scalding is no more felt; and if the medicine be continued, and collateral treatment attended to, in from two to five days the cure is complete: that is to say, there will have been no discharge seen for twenty-four hours, and there is no pain or abnormal symptom whatever. The patient must not be dismissed now, however, without a caution to abstain rigidly from all stimulants for at least a week, nor must he within a similar period take a purge, else he will assuredly bring back the discharge; then this redeveloped discharge is, for some reason I have never been able to fathom, more difficult to deal with, nor have I been able to find any attempt at explanation in the works of either Cullerier, Ricord, or Lanceraux, or any of our own authorities. It is a clinical fact, however, which every surgeon must be aware of. The oil still exerts its specific effect, and keeps the discharge in abeyance, but the omission of a dose or a slight error in diet is quite sufficient to bring it back again. In this (as in various other cases not within the province of this article to notice) it will be found necessary to vary the medicine, or to supplement it with mild injections, &c.

"I will merely add that complications are to be treated separately; although the exhibition of the oil is by no means contra-indicated by the presence of orchitis, prostatitis, or phymosis. It may be given perfectly well whilst the appropriate treatment for each of these is being carried out. To this rule there is one exception, viz. in orchitis. If it be requisite, as it very often is, to give a purge, let it be given at once and before the oil is administered: as purges and stimulants (including coffee, and I strongly suspect tea also) are contra-indicated during its administration. I have never once, however, seen any of the above-mentioned complications occur during a course of the oil,—I mean idiopathically.

"The dose is ♏v. This is sufficient. More is superfluous, and in some instances injurious. This dose may, however, be advantageously given every four hours."

Nux Vomica in Delirium Tremens.—Mr. G. R. Denton, of Leicester, writes the following note:—"It may be interesting to your readers to hear that, having had two cases of well-marked delirium tremens occurring in habitual topers, I have treated them successfully, and speedily restored them by the use of 5 to 10-minim doses of tincture of nux vomica, repeated every four hours, having first made use of an active cholagogue purgative. I should like to hear whether the drug has been tried to any extent, and with what success, by others of my professional brethren."

Sulphurous Acid in Pyrosis.—Mr. J. Christophers, of Wadebridge, writes to us as follows:—"In the third number and first volume of the *Practitioner*, September 1868, page 169, is a very practical paper by Dr. Lawson, on sulphurous acid in the treatment of pyrosis. Dr. Lawson observes:—'I am disposed to think that the usefulness of sulphurous acid in conditions of pyrosis can hardly be overrated.' In this opinion I quite concur, and by way of illustration I venture to send you the following case:—J. C——, a farm labourer, middle-aged, emaciated and wan, had been suffering for six months from urgent pyrosis and cardialgia. The pyrosis was *very frequent* and profuse. He had been under medical care, and had taken bismuth, hydrocyanic acid, chloroform, creasote, mineral acids, tonics, liq. calc. saccharatus, and a variety of other medicines, all to no good purpose. On the 9th of July I prescribed for him sulphurous acid, ʒss B.P., to be taken three times a day in water. On the 24th of July the pyrosis had nearly subsided, and the epigastric pain was relieved.

"*Aug.* 1.—The pyrosis was all but cured. To take ʒj doses of the sulphurous acid thrice daily.

"*Aug.* 15.—No pyrosis since the last visit. Continue the acid; the other symptoms are much relieved. Although he has been hard at work in the harvest-field, he has gained flesh, but is still weak, and suffers pain about two hours after having taken food. With the view of relieving the pain, I now wished to try the hypodermic injection of morphia, but he lives too far away, therefore I prescribed $\frac{1}{8}$th of a grain of morphia in a pill at bed-time every night.

"*Aug.* 21.—No return of the pyrosis. The pain gradually decreases, and flesh and strength return.

"The frequency of the malady described, the uncertainty of the remedies in general use, and their very unsatisfactory results, induce me to trouble you with this note of a case in which sulphurous acid acted more like a charm than a medicine."

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[1] Any of the foreign works may be procured by application to Williams & Norgate, of Henrietta Street, Covent Garden, W.C.; or Messrs. Dulau, of Soho Square, W.C.

THE PRACTITIONER.

NOVEMBER, 1869.

Original Communications.

ON THE USELESSNESS OF DRUGS IN THE TREATMENT OF ORGANIC GROWTHS.

BY ALFRED MEADOWS, M.D.

Physician to the Hospital for Women, and to the General Lying-in Hospital.

It must be evident to the most casual observer of the progress of medical science in our day, that the whole system of therapeutics as practised by our forefathers is being rudely shaken; its very foundations are undermined, and the whole superstructure is crumbling to atoms; and though it may be that, for a while at least, confusion and utter unbelief in the value of all drugs will prevail, as the natural and inevitable consequence of a reaction from the blind, senseless, unscientific faith of a past age, when authority was recognised as superior to fact, theory, or clinical demonstration, yet we may be quite sure that, if a new system of therapeutics is to be established in the present or a future generation—and it is quite certain that we cannot be content with the old, which has long since been proved to be inadequate to our wants—it will be more sure, more true, more scientific, and more practically valuable, in proportion as our knowledge of biology is superior to that possessed by the founders and cultivators of the moribund system. No doubt a period like the present is not unattended by danger. Like all movements which aim at reform, revolution is carefully to be guarded against. There are crises in medicine as in theology and politics, and the results to the public weal may be almost equally disastrous or advantageous in both. It behoves those therefore who desire reconstruction to be very careful how they set to work to pull down, lest in their zeal to rid the field of the tares they root up also the wheat with them.

I hope I may be excused for premising thus much, seeing that my present object is one rather of destruction than construction; for my purpose in these remarks is to criticise adversely, and that not from theory but from actual experience, very much of what is commonly and, as it seems, religiously believed and practised as to the therapeutic value of certain drugs which have a repute in the supposed curative treatment of certain organic growths. I cannot conceive anything more detrimental to the true progress of therapeutics than the tenacity with which we cling to what, if we honestly observed and faithfully acted up to our experience, we ought to discard as obsolete, useless, and even sometimes mischievous. In the present day there is rather a craze for some new thing in our Materia Medica; it seems to be taken for granted that progress in therapeutics can only be made by discovering new remedies for old diseases. I am the last to wish to check any such investigations, but I am strongly of opinion that he is doing quite as good service who honestly tests the value of current practice; and I own that I would rather for the present see our investigations directed to the testing of remedies in diseases for which they are reputed cures, than witness the many novelties which are being so frequently introduced, but which may be consigned in a few months or years to the obscurity which befits them. Our list of drugs is already more than sufficiently extensive; let us see if we cannot make it somewhat more simple, and at the same time enhance its value and efficiency.

And now to define somewhat more closely the scope of the following observations. I do not propose to discuss the therapeutic value of all the drugs which have at different times been vaunted for the cure of organic growths, neither do I purpose considering the applicability of those which I shall select to all organic growths, for my experience does not range over so extensive a field, and I only intend to give the results of my own observation; but practising as I do chiefly with the diseases peculiar to women, I have in the last fifteen years met with a very large number of organic growths, and, as every one knows, they happen to be just that kind of growth which more probably than any other are subjected to a good deal of medicinal or drug treatment; I mean, of course, tumours of the uterus, chiefly fibroids, and ovarian tumours, which are almost exclusively of a dropsical character, or which, at any rate, have a good deal of fluid contents. Whether what I shall state as the result of my own experience of these growths be or be not applicable to similar growths in other localities, I must leave to the experience of those who meet with them, premising only that if it be so, I hope they will be candid enough to admit it.

Now I make bold to say that neither in my own practice, nor in that of others of which I have heard or seen, have I ever met with a clear, unmistakeable instance of the removal of one of these growths, nor even of their diminution by so much as one hair's-breadth, which diminution I could honestly and truly believe was due to the remedies that had been given with an amount of patient perseverance which certainly was worthy of success, if it had been in the power of drugs to achieve it.

I know, of course, that such a statement as this will be received with much disfavour in some quarters. Let then its exact meaning be carefully understood. I do not say that I have never seen one of these growths diminish in size; that would be untrue. Uterine tumours at all events certainly do, and not unfrequently, get less, and I am quite sure that there is ample scope for medical treatment in regard to them; but the proposition which I venture to answer in the negative is—Do we possess any drugs which, whether in the form of outward or inward applications, have the power either of arresting the growth of uterine or ovarian tumours, or, what is more immediately at issue as the point against which I contend, of promoting their absorption and consequent diminution and cure? I assume, of course, that if any reduction is accomplished, it must be by a process of absorption, for I know of no other way by which such a result can be brought about under the influence of drugs.

Now it can hardly be said, I think, that with the thousands and tens of thousands of cases of the kind alluded to, which have been subjected to treatment by different practitioners, with the view at least of attempting reduction and cure by drugs, we have not sufficient experience to determine so simple a question of fact; and yet I am not aware of any well-recorded and carefully-observed cases or case which in the least justifies the continuance of a system of treatment which is nothing else but blind routine, carried out without one atom of faith, and the very persistence of which begets what I cannot help calling professional dishonesty, while it encourages careless observation, and tends in its measure to foster unbelief in the true science of therapeutics, and so does an infinity of harm to the practice of medicine.

While declaring thus plainly my utter unbelief in the supposed power of drugs to remove organic growths from the uterus or ovaries, I do not forget the testimony of many very competent observers to the fact that uterine fibroids do occasionally disappear. I can only say that I have never had the good fortune to witness such a thing, and I am well aware of the extreme difficulty which sometimes surrounds the diagnosis of these cases. It may be that this difficulty has much to do with the supposed disappearance of some at least of the tumours in question. But, even admitting that the diagnosis was perfect, and that the result as stated did actually occur, we are still without any evidence to guide us as to the mode by which such a result was obtained, and certainly we have no right to assume that the remedies given exercised the smallest influence. Such an assumption appears to me the more remarkable when I notice what those remedies are: viz. preparations either of iodine, bromine, or chlorine, in combination with iron, potassium, mercury, or calcium. Still more remarkable is it to observe that the external application of some of these agents to the skin of the abdomen is regarded as an essential and important part of the treatment! What right, I ask, have we, orthodox practitioners as we self-complacently call ourselves, to ridicule the follies of homœopathy while we countenance and gravely recommend such an absurd practice? Of very small use is all our advance in physiological and pathological knowledge, if it does not teach us how foolish it is to expect that the rubbing in of iodine to the skin of the belly can remove one single fibre, one solitary cell, or one drop of fluid from a uterine or ovarian tumour. If we consider the subject in its anatomical or physiological relations, to say nothing of pathology, there is no explanation which can be offered, either in reason or in fact, why such a practice should ever have been introduced; and, lamentable as much of our treatment of disease is, I would match this one sample against any which can be brought for ignorance and folly.

Some may perhaps urge that the use of external applications is to secure more complete and speedy saturation of the system with the ingredient employed, so that on the occurrence of what are called constitutional symptoms more perfect local action may be secured! If this be so, the better plan would be to use the application where the absorbents are most plentiful, as in the groins, for instance; but my argument still applies, for I dispute the value of the practice altogether. Nor does my objection to it rest solely upon its inutility; on the contrary, I believe that in the case of ovarian growths it is by no means powerless for evil. A woman who is taught that the application in question is ordered with a view to promote the absorption and removal of a large ovarian tumour, will naturally imagine that the more she rubs it the quicker it will disappear, and she will cheerfully submit to any torture for the accomplishment of such a result. Poor creature! she will soon have to be undeceived, and to learn that the remedies used with the best intentions have had little else to recommend them; meanwhile her zealous perseverance has very probably resulted in removing the last chance of her cure; for, partly perhaps from the strong friction employed, and partly from the irritant action of the remedy, from both of which she has suffered sorely, chronic subacute peritonitis has been induced, and adhesions between the abdominal wall and the cyst have resulted.

I know that what I have here stated is difficult of positive proof, but, referring to the cases which have come under my notice, I can certainly affirm that those with most extensive adhesions—and they are far more frequently met with in front than behind—are the very cases in which these supposed remedies have been most perseveringly employed. It is strange that this practice of rubbing in irritative liniments should still possess so great a charm to prescribers, seeing that there is no single case on record of its having produced any good result. I would, therefore, earnestly entreat those who have hitherto adopted it to abandon it forthwith: by so doing they will not only spare their patient much discomfort, and probably give her a better chance of final cure, but they will also save the credit of medicine, and be truer to themselves as scientific men honestly seeking after truth. Moreover, by abandoning a practice which is alike futile and irrational, they will be doing their best to remove a great stumbling-block in the way of an improved method of therapeutics; for nothing hinders the progress of scientific reforms so much as that obstinate conservatism which indolently adheres to the old methods merely because they have the authority of age, never questioning their value or submitting them to the rigid test of experience.

I have written thus strongly upon the folly of these external applications, because I can confess to having been myself a great sinner in this respect. I have very diligently practised what I now denounce, and I can truly say that I have never seen any good result; I believe I have seen harm come of it, and I am certain that no rational justification can be given for its continuance. It is not, however, in the case of ovarian tumours alone that I would repudiate this treatment. Probably it has found still more persistent advocacy in cases of fibrous tumours of the uterus. Here also my objections to it are equally strong; and for the same reasons, except that there is less fear of exciting adhesive peritonitis. At first sight there might appear grounds for a plausible expectation that, in the case of tumours with fluid contents, iodine or mercurial inunctions would help to promote absorption of the liquid; but whatever the expectations formed, I am sure I may reckon upon the concurrence of my readers in the opinion that no such results are or have been ever obtained; while, in regard to the hard solid fibrous tumours which we meet with in the uterus, not only is there never any such gratifying fulfilment of our wishes or hopes, but the more the matter is thought over and considered the less reason will there be for even the smallest expectation. If we bear in mind the histological elements of which these tumours are composed, and the anatomical relations of the tumour itself to the part where the inunction is applied, we must at once recognise the absurdity of the treatment, and wonder how it could ever have been proposed, though that is far less difficult to understand than that in our day it should still be practised as diligently as if success had been a uniform result. Here again, too, I must plead guilty to the charge of having blindly followed this practice in scores of cases, but I may add also with the result which, if I had exercised my reason, I might and ought to have anticipated. I have seen this treatment perseveringly adopted for many years, but I cannot say that I ever traced the smallest benefit to it. I am certain that I have never seen a tumour appreciably reduced by it, but I have seen very many go on steadily increasing in what I may call their normal rate of growth.

If this be, as I feel sure it is, the experience of others as well as myself, surely the time has arrived when we ought to discard a method which is not only proved to be useless, but may be injurious, and is certainly disagreeable and even painful, and against which reason alike testifies.

Turning now to the medicinal or internal treatment of these organic growths—uterine or ovarian—we have, I fear, no better reason to be satisfied with the current practice of giving preparations of iodine, bromine, and chlorine, with mercury, potassium, calcium, &c. There is, in fact, no more trustworthy evidence in favour of these remedies when given internally, than when they are applied externally. If in any case they had the virtue which is imputed to them, we have a right to expect that that would be exercised not occasionally, and with *extreme* rarity, but very frequently, or at least in a fair proportion of cases: for it is unreasonable and contrary to all experience to suppose that a remedy which must act in a definite and intelligible manner, if it is to accomplish the reduction or removal of an organic growth, should exercise its properties only once in hundreds or thousands of cases. The very exceptional and extremely rare instances of its reputed action, even according to the admissions of its advocates, is *pro tanto* presumptive evidence against the existence of such a property, and in favour of the view that the effect was, as it were, accidental—independent altogether of the imputed agent, and attributable to some entirely different cause.

In reference to some at least of these remedies, we have a tolerably clear idea of their properties and therapeutical actions, and the more definite our knowledge of these becomes, the more certain does it appear that they could not produce the effect described. We may often argue from the known to the unknown, and from the positive to the probable; such a practice is perfectly legitimate and frequently trustworthy. Take then the case of bromide of potassium. I know that just now this is a very fashionable remedy for a great variety of diseases: in many of them, I believe, it is about as useful as it is in the case of organic growths; but there can be no doubt that it has very definite and powerful properties, and some of these are so clearly proved on undoubted clinical evidence that we are fairly entitled to argue from them for or against its value in other cases.

The evidence which we possess of the influence of bromide of potassium on the nervous system as an anti-convulsive remedy, as an anodyne and hypnotic, entitles it to be classed in the first rank of nervine tonics; and if this be a fair deduction from the premises, how, I ask, can it be expected to exercise the smallest influence in promoting the disintegration and absorption of a solid tumour, or the removal of a liquid one? What relation is there between the well-observed, if not well-understood, effects of the drug and those which have been imputed to it? or what between the localities and structures which it is known to influence (the nerves) and those which it is hoped it may do?

But perhaps some one may say that bromide of potassium has also a special and equally well-observed influence upon the generative organs, and that in this way it affects uterine and ovarian growths. In answer to this I would remark: first, that while I admit that the drug certainly influences the sexual organs, I dispute the conclusion arrived at as to its influence on tumours of those organs. Secondly, judging from the effects observed in cases of disorder of the generative organs, and bearing in mind its well-known action on the nervous system, it is, I think, fair to conclude that in the former also the influence of the drug is exercised through the nervous system; possibly directly upon the sexual nervous system. It is in this way that I am disposed to explain the reputed influence of bromide of potassium in cases of menorrhagia, believing as I do that the ovaries are the principal agents in many of the disorders of menstruation, whether characterised by excess or deficiency in the menstrual discharge. In all this I see no possible explanation of the supposed effect of the drug in promoting absorption of organic growths of the generative organs, and of the assumed fact I do not know one single case which can be cited in evidence.

So much for bromide of potassium, and no more, I believe, can be said for any of the other preparations of bromine. Probably the most powerful of all these, at least for evil, is the bromide of mercury. I have used this also, and have kept patients under its influence, even to slight salivation, for several weeks; but as regards the tumour for which it was given, the only result has been to add another drug to my list of previous failures and disappointments.

Of the perchloride of mercury I would say, that having tried it perseveringly, and watched its effects honestly and fairly, I believe it to be as utterly powerless in arresting the growth or diminishing the size of any tumour of the uterus or ovaries as the water in which it was dissolved; and measuring its value in these cases by the results which it is said to be capable of producing, in regard to the absorption and removal of inflammatory products, for that is really the slender ground on which its reputation is based, I am at a loss to understand where the analogy exists. Surely no one will pretend to say that a tumour (*e.g.* fibrous tumour of the uterus, or a multilocular cyst of the ovary) has any near relation to an inflammatory product (serous effusion or plastic lymph). At present it is by no means clear to my mind, that the remedy possesses even the smaller of the two reputed properties, though I am free to confess that during its administration I have witnessed great improvement in cases of uterine engorgement, of pelvic cellulitis, pelvic peritonitis, and pelvic hæmatocele. I could not, however, affirm that the good results were due to the drug, especially as I have seen equally good effects from quinine, from leeches, and from rest.

Now as to iodide of potassium. Not only is this drug, in my judgment, absolutely valueless for the purpose in question—that of removing an organic growth—but it is undoubtedly, if persevered with continuously for any length of time, positively injurious. No one, I suppose, would think it good practice to give iodide of potassium in a case of anæmia, or in any other condition characterised by a want of power, or a depraved condition of the blood; yet these are the usual accompaniments of ovarian or uterine tumours, and under the influence of iodide of potassium I have seen a patient greatly enfeebled, her body spotted over with anomalous pustular eruptions, but not a sign of any diminution of the tumour for which this risk was incurred. Here again the analogy sought to be established between inflammatory products and organic growths utterly fails in my opinion: but even if it were true, it is still doubtful whether in non-syphilitic inflammations iodide of potassium does possess the absorptive power attributed to it. That it has great influence over syphilitic deposits I have no doubt, but the gulf between these and a fibrous or cystic tumour is, I fear, too great for the iodide to bridge over.

The only other drug to which I need make any present allusion is the chloride of calcium, and really one hardly knows whether to accept some of the statements put forward on behalf of this agent as serious or not. It has been gravely urged, for instance, that because in a few extremely rare instances fibrous tumours have been found to undergo a kind of calcified degeneration, therefore the administration of the chloride of calcium is called for to favour the process. Such reasoning as this is about on a par with that which urges the exhibition of lime-water to children affected with rachitis; it entirely overlooks the vital processes, and seems to regard the human body as a kind of chemical laboratory, where inorganic compounds may be precipitated in any part or organ we wish. For any other purpose, however, I believe the chloride of calcium to be about equally valuable. I have given it to patients many times, and for periods extending over not months only, but in some cases for years, omitting it for short intervals occasionally, but I must own to never having seen any, even the very smallest benefit, and certainly none in the direction aimed at. I am not aware that it has even the negative merit of a reputation for promoting the absorption of inflammatory products, though it is said to be useful in uterine hypertrophy and engorgement; but beyond the chemical theory above quoted, I do not know of any rational explanation of its supposed virtue.

My opinion, then, of the therapeutic value of drugs in arresting the growth or promoting the absorption of tumours of the uterus or ovaries, is that they are simply useless. Where, as is frequently the case, organic growths in these situations give rise to, or are associated with, other conditions in which inflammation plays a prominent though chronic part, then undoubtedly medicines may and can do much good, just as they do for the like conditions arising in the absence of such tumours. Whether or no there are any agents capable of producing the desired results I am not prepared to say, but we certainly have not discovered them yet, nor shall we, I believe, so long as we are content to go on prescribing eternally the same preparations, which never have, and I believe never can, do the smallest good. The sooner we acknowledge this fact, and set to work to rear some efficient remedies, whose value shall be established, if at all, simply and solely from approved clinical experience, free from all prejudice, and untainted by any mere theory, the better will it be for our patients, and for our own reputation as scientific physicians. Let us not be afraid to confess ourselves beaten by the powers of nature, and, above all, let us not oppose theoretical reasoning to stubborn facts. If we cannot do good, at least let us not do harm; and when remedies have been fairly tried, as those have which are here considered, with special reference to the diseases in question, and have uniformly failed of their purpose, let us not lack the courage or honesty to admit it, lest the responsibility rest with us of hindering the advancement of our science, by blind following of useless routine, to the injury of those committed to our care.

ON THE ACTION AND USES OF IPECACUANHA.

BY CHARLES DOUGLAS PHILLIPS, M.D.

Ipecacuanha was first brought into Europe about the year 1680. The merchant who brought it gave it to the celebrated Helvetius as a valuable remedy for dysentery, a reputation which it had probaby acquired amongst the native Indians of Brazil. In the hands of Helvetius it proved so successful in the treatment of dysentery, that its fame soon spread through France, and from thence throughout Europe. But great as was the curative effect then attributed to it, in more modern times it has rarely been used in dysentery,[1] except in the form of Dover's powder, the opium of which was supposed to allay the pain and tenesmus.

Great doubts now exist respecting its efficacy in cases of dysentery, and for the most part it is considered useful only as an auxiliary, and especially when taken in conjunction with opium.

When ipecacuanha is introduced into the system in large doses by the mouth or the anus, it causes vomiting, and induces irritation of the mucous membrane of the alimentary canal, the eyes, and the respiratory tract. When it is introduced by subcutaneous injection, it produces nausea, vomiting, and a profuse and clammy perspiration, with great prostration. Its dust, when inhaled, has been known to produce in persons of a certain constitution some remarkable and distressing phenomena, as violent dyspnœa, coryza, and spasmodic cough, with wheezing and oppression of the chest; in many instances these symptoms have become most alarming. It is thought that light-haired people are most susceptible to the influence of this drug.

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[1] During the last few years ipecacuanha has been freely used for dysentery in India. Large doses have been found to be tolerated in an extraordinary degree. —Ed. Practitioner.

Ipecacuanha contains a feeble alkaloid, emetina, which is supposed to be the active part, and an acid called cephalic or ipecacuanic acid.

There are six officinal preparations of ipecacuanha in the British Pharmacopœia, but I shall confine my remarks to the simple powdered ipecacuanha and its wine.

Ipecacuanha has long been known to have a peculiar action upon mucous membranes, especially those of the respiratory passages and the alimentary canal. Its operation as an emetic is exceedingly safe, as it does not produce inflammation even when an overdose has been taken by mistake. On this account it is often prescribed for children as a good and harmless emetic. Its emetic action is rather slow and uncertain as compared, for example, with sulphate of zinc; consequently it is not often ordered for adults.

As a diaphoretic it has unquestionable effect, whether given in the form of Dover's powder or vinum ipecacuanhæ.

Ipecacuanha exerts a power over all diseased mucous membranes in checking profuse mucous secretions, whether from the air-passages, the alimentary canal, or the genito-urinary apparatus. It is a most useful remedy in spasmodic coughs attended with profuse mucous expectoration and vomiting, especially in those troublesome coughs, accompanied by vomiting, which are incident to pregnancy. Its beneficial operation is clearly discernible in most cases of continued and obstinate retching or vomiting, where the stomach is not primarily affected, but disturbed by sympathy with some other part or organ of the body, whether the primary affection be acute or chronic. There are cases of sickness and spasmodic cough during pregnancy, accompanied by ulceration of the uterus, which fail to yield to it; but in many of these cases it will succeed if a few doses are administered before the patient raises her head in the morning.

The following two cases, amongst many others, came under the writer's observation last year; they are here mentioned as characteristic of some of the therapeutic actions of this drug:—

Mrs. E. M——, aged 33, of a nervous-bilious temperament, came under the writer's care May 27, 1868. She had enjoyed good health until within the preceding five months, when she had suffered much from loss of appetite, nausea, vomiting, and frequent retching, especially in the morning. These symptoms steadily increased, and about four weeks later a severe cough ensued, accompanied by much dyspnœa and profuse mucous expectoration; the cough rarely subsided without first bringing on retching or vomiting. For the six weeks last past the cough and dyspnœa had so seriously disturbed her rest as to prevent sleep, or even lying down, for hours through the night; and the vomiting and retching, which occurred eighteen or twenty times in the twenty-four hours, had so emaciated her as to cause serious anxiety to herself and her friends. She was now about six months advanced in pregnancy, pale, weak, and emaciated; had a bad cough, with profuse viscid expectoration, and much dyspnœa, the cough almost invariably attended with vomiting or retching; appetite capricious and bad; tongue brown; vomiting after each meal, quite independent of cough; bowels regular; urine scanty and loaded with lithates. The form of the chest well developed; percussion normal throughout; sibilant and sonorous râles accompanying inspiration and expiration, anteriorly and posteriorly on both sides; respiration 18 per minute; cardiac sounds normal; pulse 72, weak; temperature 98½.

℞ Vinum ipecacuanhæ ʒj,
Aquæ pur. ℥vj.—Mix.

A teaspoonful to be taken frequently for cough or vomiting.

June 8, 1868.—Greatly improved in appearance; feeling stronger; no sickness or retching for the last six days; able to lie down and sleep throughout the whole night, the cough, dyspnœa, and wheezing having almost left her; appetite good; tongue clean; troubled with flatulency; bowels regular; urine clear, dark in colour; pulse 72, stronger.

Repetatur medicamentum. Not to be used except in case of cough, vomiting, or retching becoming troublesome.

July 15, 1868.—No vomiting or retching since last visit; cough recurring only two or three times in the forenoon, giving her no trouble; flatulency still continuing, with oppression after meals; appetite excellent; tongue clean; bowels regular; gaining flesh rapidly.

℞ Tinct. nucis vomicæ ʒss.
Aquæ pur. ℥vj.

A tablespoonful to be taken morning, noon, and night.

In January 1869 Mrs. M—— was looking fat and strong, and said she had had no return of cough or sickness since the date last mentioned.

Mrs. H——, aged 36, of a nervous bilious temperament, came under the writer's care July 4, 1868. States that she enjoyed excellent health until within the preceding two months, during which time she had suffered from violent vomiting and retching, especially in the morning, and frequently throughout the whole day, and from loss of appetite, with a nauseous craving for food. She was now three months advanced in pregnancy, and rather emaciated; affected with retching and vomiting in the morning, and constant nausea throughout the day, with a feeling of weakness and sinking at epigastrium, and a sense of general prostration of strength and depression of spirits: appetite bad; tongue tolerably clean; bowels regular; urine clear and copious; pulse 72; temperature 99.

℞ Vini ipecacuanhæ ʒj,
Aquæ pur. ℥vj.

A tablespoonful morning, noon, and night; more frequently in case of sickness being troublesome.

July 16*th*, 1868.—Quite free from sickness for the last week. Appetite good; tongue clean; no longer feeling the sense of weakness at epigastrium, from which she had suffered so much; bowels regular; urine natural; feeling stronger and better in every respect.

To take a dose of the ipecacuanha night and morning for a few days, and then gradually to discontinue it.

September 5*th*, 1868. — Occasionally, during the interval, troubled with nausea, which was always removed by a few doses of the ipecacuanha.

The writer has now before him twenty-three carefully recorded cases of whooping-cough. In most of these the cough came on in violent paroxysms, continued until a quantity of viscid mucus was ejected from the lungs by the mouth, and often by the nostrils, and increased in intensity until the contents of the stomach were evacuated.

In all these cases, where the vomiting had been more troublesome than the whoop, ipecacuanha has given very marked relief.

The dose recommended is half a drachm of the vinum ipecacuanhæ in four ounces of water, a dessert-spoonful to be taken every one, two, or three hours, according to the severity of the cough. Children under five years old should only take a teaspoonful of the same mixture, but many children of this age can tolerate, and are benefited by, much larger doses.

In the capillary bronchitis of children, even when complicated with croupy symptoms, it acts well. In these cases the writer orders ʒss of vinum ipecacuanhæ to four ounces of water, a teaspoonful to be taken every one or two hours, or much more frequently if the symptoms are urgent.

In many cases of nocturnal spasmodic asthma, in which hours are spent in great distress, with livid face and lips, loud wheezing throughout the chest, and want of breath, causing fear of suffocation, if there is no organic disease of the heart or the lungs, ipecacuanha will give quick and marked relief. Five drops may be taken as a dose, repeated every ten to thirty minutes for two or three hours, unless relief comes much sooner, in which case the dose should be diminished and taken less frequently. Care should always be taken to avoid its emetic or nauseating effect.

In these affections of the lungs, its expectorant and antispasmodic character cannot be doubted, nor its curative action in controlling and stopping the abnormal secretion of mucus.

Hæmorrhage in the early stage of tubercular phthisis, and in most stages of this disease, when produced by engorgement of the bronchial mucous membrane, and accompanied by little or no acceleration of pulse or increase of temperature, is often readily stopped by ipecacuanha. In hæmatemesis arising from vicarious menses, and also in some cases of menorrhagia, it is very useful.

In many cases of dysentery it lessens the bloody and mucous discharge, and removes the cutting pains and tenesmus, especially in the early and late stages of the disease. In cases of dysentery or diarrhœa, where nausea, vomiting, or retching exists, ipecacuanha will stop the sickness, and at least control the dysentery or diarrhœa. The watery diarrhœa during dentition, the diarrhœa with green evacuations, and the dysenteric diarrhœa, which are so common among children, rapidly yield to this drug. Vinum ipecacuanhæ is effective in dysentery and diarrhœa, but the writer has preferred the pulvis ipecacuanhæ, considering its action more speedy and trustworthy.

It is more necessary to vary the dose in dysentery than in any other class of cases, one grain every one or two hours being quite sufficient with some persons, whereas others require ten, twenty, or more grains as a dose. These larger doses sometimes, when first administered, bring on vomiting, which it is well to avoid; but if the patient is kept lying on the back, and the dose persevered with, it can generally be tolerated, and a rapid recovery often follows.

In the diarrhœa and dysenteric diarrhœa of children, one-fourth to one-half of a grain, with a little white sugar, at intervals of one to three hours, is generally sufficient, but the quantity must be increased if necessary.

In this paper ipecacuanha alone has been considered, not its relative value as compared with other drugs. It is not alleged to be the best remedy in all the cases enumerated above, but in all it is a useful one.

[Dr. Ringer's late work on Therapeutics having asserted the effect of small doses of ipecacuanha in checking vomiting, the Editor wishes to accumulate evidence upon this matter, as to which he is at present unable to pronounce any opinion. But he calls attention to the fact that should it be proved, as seems likely, that small doses of ipecacuanha exert a tonic effect upon the sympathetic system generally, it will be the most effective blow yet given to the homœopathic theory of *similia similibus*. It would be a farther illustration of the fact, which is forcing itself more and more upon our notice, that the words "similar" and "opposite," as regards the relations between drugs and diseases, are equally incorrect; being both of them based on the metaphysical fallacy that a drug must always act after one *kind*, though in different *degrees*, whatever the dose in which it may be given.—ED. PRACTITIONER.]

TREATMENT OF CHOREA.

BY WILLIAM BISSET BERRY,

Burghersdorp, South Africa.

In the *Practitioner* (pp. 137 *et seq.*) Dr. John Harley contributes a paper on *Conium in the Treatment of Chorea.* It is difficult, from a mere perusal of that paper, to ascertain whether Dr. Harley recommends us to use conium in the treatment of chorea in particular, or intends to inculcate upon the profession the necessity of giving conium in much larger doses than we have official authority for, if we would obtain any beneficial effect from the remedy in diseases in general. There occurs, however, the following passage :—"All previous observations upon the influence of hemlock in the various morbid conditions for which it is recommended, are of little or no value. It is necessary, I believe, to begin the inquiry anew. As a small contribution thereto, &c., I adduce the following instances of the use of conium in chorea;" from which it would appear that Dr. Harley believes chorea to be one of "those morbid conditions for which it (conium) is recommended." If this treatment of chorea by conium receive general sanction, we shall have the homœopaths down upon us again. For if Dr. Adams ("Paulus Ægineta," Book V., Art. *Hemlock*) is right in saying that the true interpretation of the term used by Plato (ἐκινήθη) to express the condition in which Socrates died, be "convulsed," the homœopaths are sure to say, after forming an analogy between convulsions and chorea, "Here is another *simple* which in small doses cures symptoms which it produces in large doses." But be this as it may, most practitioners will regard the circumstance, that the *succus conii* effects a cure in such a disease as chorea only after some four or five pints of it have been imbibed, or gives rise to the physiological effects of the drug only in doses of two, three, and four drachms, as rather a cogent reason for eschewing it altogether, or at least for at once casting about for another and a better remedy. Surely Dr. Harley cannot believe that the "parish doctor," in whose practice the disease frequently presents itself, and whose income is very limited, can afford to let each choreic patient have the run of his *succus conii* bottle. For such practices a remedy must be tolerably cheap as well as efficient; but the conium treatment would need to make the doctor's reputation speedily, otherwise it might bring him to the verge of insolvency.

Although we have never tried to subdue choreic movements by *conium*, we have no doubt but that they can be so subdued, Dr. Harley's testimony being unimpeachable in this and other matters where he makes himself responsible. But a comparison of the results obtained by Dr. Harley with conium, and those obtained by Dr. King Chambers with arsenic, as detailed in his "Lectures, chiefly Clinical," would perhaps give the palm to the latter. True, Dr. Harley availed himself neither of a shower of water nor of a simple aperient, but this can scarcely be allowed as an argument *pro* or *con*. Pereira also tells us: "In chorea, I have seen great advantage attend its (arsenic) use; in fact I know of no remedy for this disease equal to arsenic, which in a large proportion of cases acts almost as a specific." And Sir T. Watson, without giving his own experience of the drug, says: "Dr. Begbie, in an experience of thirty years, has never known arsenic fail." It is rather surprising that, in the systematic work of Dr. Aitken, the use of arsenic, as a remedy for chorea, is not alluded to. It savours of impertinence to add my mite of testimony to that of such honoured names; but my experience of arsenic, although far from as extensive, has been as satisfactory as Dr. Begbie's. Two of these cases, however, may illustrate all. One, a boy of fifteen years of age, had been choreic from infancy. His parents resided far from here, had been to many medical men without getting any relief for their boy, and being rather superstitious, had come to the conclusion that he "was possessed of a devil." They accidentally heard of some similar case which I had relieved, and about eight months ago they came with him to consult me.

The lad presented a pitiable appearance; long, lean, and lanky, his body was constantly writhing and twitching about, perpetually on the move. He had always been fed, for he speedily scattered any food or drink which he might try to convey to his mouth; and in mouthing the morsel brought by another, his face became contorted in a most extraordinary manner. I gave the father a supply of arsenical solution, telling him how to give and increase the dose, and when to leave off. I saw nothing more of the family until the other day, when the father brought his boy, but so altered that I could not recognise him. The boy had gradually gained in flesh and strength, his colour was healthy, and the choreic movements had gradually subsided, and had not returned. He had not taken the solution during four months previous to this latter visit. The other case was that of a boy who had been choreic for three years. For the first two years he had been also to various physicians, who had purged him, electrified him, treated him for worms, blistered him, bathed him, and given him iron with no benefit. A year ago he applied to me, took arsenic by my advice, speedily lost his jactitations, and has not since experienced them. The former case was so far analogous to Dr. Harley's conium case as it had the benefit of neither a shower of water nor an aperient; the latter case had a shower bath every morning, and continues it. Neither case had any history of rheumatism or any appreciable affection of the heart. In both these the dose of Fowler's solution was gradually raised from five to fifteen drops three times a day immediately after meals. Under these circumstances it would appear that a disease less amenable than chorea to such a convenient method of treatment as the arsenical might have been selected by Dr. Harley for experimentalising with the therapeutic action of conium. Not but what conium may be fallen back upon should arsenic be tried and found to fail; but surely the latter, from its cheapness, its tastelessness, its portableness, and freedom from decomposition, must still be the popular remedy with the profession for chorea.[1]

It is deserving of notice how closely the intelligent "guess" of that shrewd observer Dr. Chambers, as to the action of arsenic, is borne out by the results recently obtained by MM. Moutard-Martin and Hérard in their experimental researches into the physiological and therapeutical action of arsenic in phthisis (*Lancet*, vol. ii. 1868, p. 672). Dr. Chambers (*op. cit.* 4th Edition, p. 366) says: "As arsenic is not a normal constituent of any part of the body, and cannot be imagined to replace any normal constituent, while at the same time patients increase in strength and weight during the course of taking it, I suppose it must be an indirect constructive, acting powerfully on the nervous system." Referring to the experiments of Hérard, the *Lancet* says: "In the course of a few days only the patient revives, the eye shows new life, the complexion is better, the appetite is restored, and the patient even gains flesh. The beneficial action of arsenic is, however, observed in only one class of phthisical sufferers—those whose digestive organs have not undergone much impairment. In cases in which there is much impairment of the digestive function, and in which vomiting and diarrhœa are already present, the remedy far from doing any good often increases the condition of the patient." Hence the inference: "Its good effects are merely due to its influence upon the functions of nutrition." But M. Hérard contends that the arsenic acts beneficially locally, and reasons that Tyrolese and other arsenophagous mountaineers are longer-winded than others on account of the beneficial local effect of the metal on the mucous membrane of the lung: an argument as good as if we were to say that because a man dances vigorously after a glass or two of champagne, therefore alcohol acts directly upon the muscles of the legs. Dr. Radcliffe ("Lectures on Epilepsy," &c.) has made it manifest that the centre and source of all physical powers lies in the nervous system, and that if the muscular system is excessively fed and developed, while the nervous is comparatively starved, both are certain ultimately to break down. We have it also, on the same authority, that "the signs of wanting brain power are scarcely ever absent in persons who are liable to epileptic and other forms of chronic convulsive disorder," such as chorea. And as it does not appear that the arsenic-eating Tyrolese are in any other way so peculiar in matters of diet, as that in this way the elements necessary for the perfection and maintenance of the nervous system are received; and as it has been proved by the testimony of many observers, that choreic subjects improve in mind and body under the arsenic treatment; it does not seem to be an unwarranted deduction that the drug acts in both classes of cases in the same way, viz. by promoting the growth and development of nerve tissue, every organ of the body being in consequence more perfectly supplied with a more potent nerve or vital force, and performing its peculiar functions in a more regular and complete manner. In this way the Tyrolean would be a better climber, not from any direct effect of the arsenic on the bronchial mucous membrane, but from his superior condition of innervation. The fact, also, that a course of arsenic is often successful in curing or relieving neuralgic pain—which, according to Dr. Radcliffe, "is to be regarded as a sign of defective vital power in general, and of defective nerve power in particular,"—is additional support to the probability that arsenic tends in some manner to give health and strength and tone to the nervous system.

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[1] We think the majority of our readers will scarcely agree with Mr. Berry's sanguine estimate of the amenability of chorea to *treatment*, although it certainly very often terminates spontaneously.—Ed. Practitioner.

A CASE OF PARALYSIS AGITANS SENILIS, CURED BY THE ACCIDENTAL APPLICATION OF ELECTRICITY.

BY U. S. L. BUTLER, M.D., L.K.Q.C.P.I., ETC. ETC.

Physician to the St. Paul's Dispensary, Dublin.

WHILE occupied some few days ago in preparing an electromagnetic machine for application to a patient, an old servant (upwards of 80 years), who had long been subject to violent spasmodic tremblings of both arms, chanced to enter the room. More I must confess in the spirit of levity than either philanthropy or philosophy, I asked her to take hold of the electrodes of the machine, at the same time pressing the bundle of soft wires some distance into the centre of the helix, so as to give a pretty sharp shock. Although much startled at first, she continued to hold the electrodes for a short time, perhaps a minute or upwards. She then left the room, but returned almost immediately, and with a half-terrified, half-triumphant air declared that since she got the shock the trembling had almost completely vanished from her arms. And in order to demonstrate the truth of her statement, she held in her hand a rather heavy tray, with a tea-cup and saucer placed upon it, with scarcely any perceptible motion. Had she attempted to do so before the application, the experiment, no doubt, would have proved in the last degree disastrous to both the tray and its contents. Now, however, occurred the most interesting and instructive feature in the case. Having held the tray for some time in the right hand, which had previously been very much worse than the other, she took hold of it with her left—I suppose under the impression that, as the right had been so very much improved, the left, from not being previously so much affected, would be completely cured. Her disappointment was, however, very great when she found that, so far from being perfectly restored, it was decidedly worse than before the application had been made. So much so, that she rather indignantly exclaimed, "Oh, sir, you only took it out of the right arm and sent it into the left." Although at first rather perplexed by the phenomenon, an explanation quickly presented itself, which was afterwards verified by events.

Upon examination I found she had held the negative electrode in the right hand, while the left grasped the positive. The effect of this proceeding was, of course, to cause the current to pass up the left arm, across the chest, and down the right arm, producing in the case of the down-running current a decidedly tonic and salutary effect, while the opposite result was caused by the up-running or inverse current. That such was the correct explanation of the change that was caused by the application, was fully and most satisfactorily proved to me by reversing the electrodes on the following day, placing the negative in the left hand and *vice versâ*. The result of this manœuvre was to restore the left arm to its former strength without producing much appreciable effect upon the right, thus plainly demonstrating the tonic effect of the direct current. I now, however, adopted what appears to me to be the correct and scientific mode of application, by bathing the fore-arm and hand with the negative moist sponge electrode, while the positive electrode was directed to the vicinity of the shoulder-point and brachial plexus, thus applying a direct current to the affected muscles. The result of the treatment was the best proof of the correctness of the principle upon which it was founded. A few applications repeated every second day completely restored her, and now her greatest source of enjoyment is to display her powers as an equilibrist to any one who may feel an interest in the matter.

[We print the above as an interesting example of the disappearance of a singularly incurable disease. We feel bound to say, however, that we ourselves incline to believe the cure to have been a result of *emotion*, and not a genuine electro-therapeutic effect.—Ed. Practitioner.]

THE VACCINATION QUESTION.

BY THE EDITOR.

PART II.

In our last number we reviewed the arguments lately urged in this country in support of the theory that cow-pox degenerates in passing repeatedly through the human system, so as to lose its protective power against small-pox infection. We came provisionally to the conclusion that the evidence adduced was incompetent to sustain this theory; but we reserved the final statement of our case on this point till we should have had the opportunity of analysing the facts as to the alleged transmissibility of other infections by the medium of vaccination.

In commencing the study of this latter question, we must remark that popular ignorance of medical subjects has a specially disastrous influence on the discussion of such a subject as this, which cannot be kept in medical hands, but from its general interest necessarily becomes public property. It is easy to raise the terror of infection in the minds of those who are unacquainted with the principles of pathology, but it is extremely difficult to explain, to those who have once been frightened in this manner, the deceptive nature of the cry thus raised. There can be little doubt that the effect of this cry on that section of the laity which listens to Dr. Collins, and his fellow-prophets of the Anti-compulsory Vaccination League, is to make it believe that lymph taken from the human subject may transfer to the recipient *any* constitutional disease from which the *vaccinifer* may have been suffering. We are not sure that we shall make ourselves understood to those non-professionals whose interest in questions of public health will induce them to read this article. Yet we would beg such readers, very earnestly, to try and follow the thread of our argument continuously.

Three totally distinct series of facts have been adduced in evidence of the liability of humanised lymph to carry with it into the system of the recipient other diseases with which the subject from whom it was taken may have chanced to be affected at the time. It has been alleged that constitutional diseases, such as syphilis and scrofula, may be so transferred. It has been alleged that the lymph from certain individuals carries septic (or putrescent) infection, and provokes such diseases as erysipelas or pyæmia in the recipient; and it has been stated that various skin diseases, not ordinarily contagious, can nevertheless be conveyed by the medium of vaccination. We do not mean to say that these are *all* the charges that have been brought against humanised lymph, but we may fairly say that they are the only ones which would now-a-days be urged by any one possessed of the least tincture of medical science. The above is the order of their relative importance; but it will be convenient to deal with the least serious of them first.

1. It is alleged that various skin diseases, such as eczema, impetigo, &c. &c., which are not ordinarily contagious, can be transferred from one person to another by the medium of vaccine lymph. It would be scarcely necessary to refer to this statement at all, in speaking to an exclusively medical audience. But experience shows that the ignorant classes of the public, and even a certain number of the better educated, believe in the possibility of such occurrences; and in the out-patient rooms of our hospitals nothing is more common than to find mothers of children attributing the occurrence of such eruptions (which are really among the commonest affections of childhood) altogether to a vaccination which has shortly preceded their appearance. It will be sufficient to say here, that the opinion of the entire profession coincides with the very clear statement on this point which was made, some years since, by Mr. Paget.[1] That high authority says that the only connexion which can be rationally traced between the vaccination and the general skin eruption in such cases is this: that multitudes of children are naturally predisposed to the commoner eruptions, and that vaccination is only one of many trifling constitutional irritations, which might have precipitated the first appearance of such eruptive diseases. Considering that such skin affections, however troublesome,

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[1] Appendix (Supplement F) to Mr. Simon's Collection of Papers on Vaccination. Blue-book. Spottiswoodes, 1857.

are trivial, curable, and harmless to the constitution, it would clearly be criminal for one moment to propose that we should forego the all-important protective advantages of vaccination from a fear of their occurrence.

2. A more serious matter is the charge that vaccination can cause septic infection, with consequent erysipelas or pyæmia, producing violent constitutional fever that may even be fatal. That such results do sometimes, though very rarely, follow the performance of vaccination, is quite true, but it is ridiculous to charge them to vaccination itself; they are produced by more or less culpable negligence on the part of the vaccinator in one or other of three directions:—Either (1) he has taken the lymph from a child actually suffering from acute septic disease—an almost impossible amount of carelessness; or (2) he has used lymph which has been stored too long, or stored in such a manner as to have been exposed to the combined influence of air and moisture,—in any case lymph which has undergone more or less of that putrefactive change which affects all animal matters placed in such circumstances; or (3) he has taken the lymph from a vesicle which had already become a *pustule.* It is true that such accidents do occur, though very rarely. But they clearly ought never to occur, nor would they ever do so if the proper precautions were always taken. If we admit, however, that in an infinitely small proportion of cases these things do happen, what does it amount to? Simply to this—that doctors are not perfectly infallible beings; and that just as they sometimes commit the grievous fault of attending a woman in labour when still tainted with the infection derived from another patient with erysipelas or scarlet fever, so—*though far less frequently*—they may, under the pressure of hurry, of emergency, or of overwhelming business engagements, omit the necessary precautions for making sure of the perfect sweetness and freshness of the lymph which they employ in a vaccination. Will any one pretend for an instant that the mischief done in this way by vaccinators equals the hundredth part of the more or less preventible calamities which occur from analogous causes in midwifery, or in operative surgery? The only difference in the circumstances is altogether in favour of

vaccination; for the risks are infinitely more recognisable and avoidable in this case than in the others.

3. By far the gravest charge, however, against vaccination with humanised lymph, is the assertion that it can accidentally convey constitutional infections, such as syphilis. For practical purposes we may take the case of syphilis only; for even the most pronounced alarmists of the French Academy admit that this is the only real danger of the kind now referred to. On this point, however, the outcry has become serious, backed, as it has been, by the production of an array of facts which at first sight wear a formidable appearance.

Up to the moment of the publication of the Rivalta cases, which occurred in 1861, European medical opinion had practically negatived the theory of the transference of syphilis by the medium of vaccine; and it will be well to remind ourselves of the extraordinary weight of evidence which had led to that decision. Mr. Simon, as medical officer of the General Board of Health, in 1857 addressed a series of questions to a very large number of medical men, both in this and other countries, and received answers from no less than 539 of them, in which number were included men of every kind of eminence, both general and special. It may be doubted if such an imposing muster-roll of witnesses has ever testified simultaneously upon any scientific question. With scarcely an exception, this large number of medical men denied that syphilis can be conveyed as a true result of vaccination; although some of them pointed out the obvious fact that by gross carelessness syphilis *might* be inoculated instead of vaccine, just as it might be accidentally inoculated in any surgical operation by the use of a knife or lancet fouled with syphilitic matter. The list of witnesses included the most eminent syphilographers, the most experienced vaccinators, and the greatest authorities upon children's diseases, besides a multitude of the greatest names in general medicine in England, France, and Germany.[1] If negative evidence be ever sufficient to disprove a theory, assuredly the conditions of the disproof of vaccino-syphilis were already fulfilled; for the weight of testimony was enormous, and far exceeded anything which can be produced in the discussion of ordinary topics of dispute, whether in science or in any other sphere of inquiry. But the answers to the questions included much more than mere testimony to the non-occurrence of vaccinal syphilis; for several learned pathologists elaborately showed that the whole analogy of the transmission of other contagions is flatly opposed to the idea that two poisons can be conveyed by one lymph. And finally, to complete the tripod of proof, the direct experiments of Cullerier and others, on the effects of intentional admixture of syphilitic matter and vaccine, and of the vaccination of large numbers of persons with vaccine matter intentionally taken from persons suffering with constitutional syphilis, added positive evidence of the most powerful kind against the possibility of transmitting syphilis by an ordinary vaccination with lymph taken out of a true Jennerian vesicle.'

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[1] *Vide* Papers relating to Vaccination, *supra cit.* Appendix J.

Before criticising the new facts which are supposed to override this extraordinary mass of evidence, let us note that, with the partial exception of Ricord,[1] scarcely one man of importance among the above witnesses has changed his mind even now: and it would be easy to show that even Ricord is no true convert to the new doctrine. And we may here state that we have lately made it our business to question great numbers of hospital physicians and surgeons, and of general practitioners, and that from all of these, with one exception, we have received the most positive denial that vaccination ever really causes syphilis. The one exception is that of an eminent dermatologist, who has seen one case of infantile syphilis, for which he cannot, after the best investigation he could make, see any other cause than a previous vaccination. The case, however, lacked so many important details, which should appear in any history intended to establish a proof, that we believe its observer himself would hesitate to publish it as a positive case of vaccino-syphilis, or to commit himself to any opinion on the general question. We beg to dwell strongly on one fact that suggests infinite possibilities of self-deception on the part of those prepared by prejudice to expect a catastrophe. We refer to the remarkable case in which Mr. Henry Lee, the eminent syphilographer, actually showed before the Medico-Chirurgical Society what he believed to be syphilis following vaccination. With great candour Mr. Lee afterwards avowed that he, with all his vast experience, had been mistaken, and that the child had never had syphilis at all. Such a fact speaks volumes as to what might occur under less critical eyes than those of Mr. Lee. We would also mention, as specially important, a conversation in which Mr. Acton, a day or two since, informed us of his present views. With all his immense experience of genuine and supposed syphilis, Mr. Acton holds unwaveringly to the denial of vaccino-syphilis which he gave twelve years ago in answer to Simon's questions. But what is even more important, he described to us numerous cases in which intelligent medical men had brought children to him suffering, as they believed, from syphilitic affections of the skin, mouth, anus, &c., when in reality there was no syphilis present, and the spots, sores, tubercles, &c., rapidly disappeared with mere cleanliness and simple dressings. Finally, we cannot withhold our own less extensive, but still interesting experience, which ranges over twelve years of London practice, and includes what we saw successively, as physician accoucheur's assistant at King's College, physician in charge (for six months) of the Surrey Dispensary, physician (for five years) to the Chelsea Dispensary, and assistant physician (for eight and a half years) to the Westminster Hospital. Of the thousands of children seen by us not one has presented even suspicious symptoms of vaccino-syphilis, although our attention has at all times been keenly directed to the subject of infantile syphilis, of which we have seen plenty.

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[1] Since writing this we find, from Mr. Lee's new edition of his article on Syphilis in Holmes's "System of Surgery," that he does believe in the possibility of vaccino-syphilis; though he has never seen a case. He reproduces a drawing, sent to him from Paris, of one of the reputed cases which occurred there: but gives no particulars of the case. From internal evidence it was probably Trousseau's case, which Dr. Seaton (Handbook, p. 330) has shown to be quite worthless.

Upon the above evidence alone we are plainly entitled to assert that, if vaccino-syphilis does ever occur, it must be of the most extreme rarity. It must be at least as rare as triplet births.

But we go much further than this. We maintain that, upon the strict logical principles of evidence, a case is made out for the DISBELIEF of any statements such as have recently been made as to the occurrence of vaccino-syphilis. We shall analyse the most striking of these statements presently; it will here be enough to remark that they are isolated observations, very few in number, and not in one single instance fulfilling the conditions of a philosophical induction. Under these circumstances we take the liberty of recalling to our readers' minds the statement by Mr. Stuart Mill of the grounds of philosophic disbelief (Logic, vol. ii. pp. 155 *et seq.*):—

> "By disbelief is here meant, not the state of mind in which we form no opinion concerning a subject, but that in which we are fully convinced that some opinion is not true; insomuch that if evidence, even of great apparent strength (whether grounded on the testimony of others or on our own supposed perceptions), were produced in favour of the opinion, we should believe that the witnesses spoke falsely, or that they, if we were ourselves the direct recipients, were mistaken.
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> "That there are such cases, no one is likely to dispute. Assertions for which there is abundant positive evidence are often disbelieved, on account of what is called their improbability, or impossibility. And the question for consideration is, what, in the present case, these words mean; and how far, and in what circumstances, the properties which they express are sufficient grounds for disbelief.
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> "It is to be remarked in the first place, that the positive evidence produced in support of an assertion which is nevertheless rejected on the score of impossibility or improbability is never such as amounts to full proof. It is always grounded on some approximate generalisation. The fact may have been asserted by a hundred witnesses, but there are many exceptions to the universality of the generalisation that what a hundred witnesses affirm is true. We may seem to ourselves to have actually seen the fact: but, that we really see what we think we see, is by no means an universal truth; our organs may have been in a morbid state; or we may have inferred something, and imagined that we perceived it. The evidence, then, in the affirmative being never more than an approximate generalisation, it is a case for comparison of probabilities. If the approximate generalisations leading to the affirmative are, when added together, less strong, or in other words farther from being universal, than the approximate generalisations which support the negative side of the question, the proposition is said to be improbable, and is to be disbelieved, provisionally. If, however, an alleged fact be in contradiction, not to any number of approximate generalisations, but to a completed generalisation based on a rigorous induction, it is said to be impossible, and is to be disbelieved totally."

Now we maintain that vaccino-syphilis is precisely in the position described in the last paragraph of the above, and we therefore take our stand with M. Jules Guérin (in his final speech at the Academy) in the position of total disbelief; for we hold that the asserted existence of vaccino-syphilis is supported only by approximate generalisations, and is in contradiction to a completed generalisation grounded on a rigorous induction.

We have been surprised that this position of the argument should have so largely escaped attention. Let any intelligent person read over the headings of the evidence against the possibility of vaccino-syphilis which we have above enumerated, and he will see that the conditions of a rigorous induction have been fulfilled with a completeness rarely possible in medical science. In particular, the *experimentum crucis* of intentional vaccination from syphilitic individuals, performed many hundreds of times by distinct and independent observers, and with perfectly negative results, is a most fortunate circumstance, which could hardly have been hoped for,[1] but having occurred, carries extraordinary weight, from the great certainty we possess that, had syphilis been present in the lymph, it *must* have been inoculated in many cases, for syphilis is one of the most inoculable of poisons. Further, the argument from analogy supplied by the fact (which has been ascertained over and over again) that even the *poison of small-pox* does not enter the lymph of a Jennerian vesicle, developed in a person who had been vaccinated too late to prevent small-pox, which was already incubating in his system, is of tremendous strength. For as Simon remarks, the system is here "drenched with the subtlest infection" known to the physician—the infection of small-pox—yet the fluid in the vaccinal vesicle remains absolutely free from the power to communicate that infection to another organism! Add to these considerations the fact that men like Marson, Tomkins, Acton, Erasmus Wilson, &c. &c., whose experience of infantile syphilis and of vaccination is something fabulously large, have *never seen* vaccine syphilis, *but have often seen cases falsely so called, which broke down on investigation,* and that one such case as this actually deceived for a time so very able an observer as Mr. Lee. Add all these things together, and we have reasons for the direct disbelief of the asserted vaccino-syphilis, to invalidate which it would be necessary to produce evidence of such a strength as we are totally incapable of imagining.

Let us test the asserted instances of vaccino-syphilis by the rules of logical inquiry. The first requirements we should make, in admitting these cases as evidence, would be (1) that syphilis of the most unmistakeable kind should be shown to have followed vaccination with a particular lymph, and that in a sufficiently large number of subjects to eliminate the fallacy which might otherwise be caused by the existence of latent syphilis, in the sufferers, previously to the vaccination; (2) that every step of the operation and its consequences should be traceable throughout; (3) that the lymph which is supposed to have carried the infection should be traced back to a syphilitic person as its source; (4) that being so traced, it should be shown to have been taken from a true Jennerian vesicle which had not degenerated; (5) finally, that it should be proved, with a high degree of certainty, that none of the more ordinary sources of syphilitic inoculation, such as the accidental use of a lancet foul with syphilitic matter, could have caused the infection. Now if we take the celebrated Auray epidemic—by very far the most striking and the most completely investigated of the alleged instances of vaccino-syphilis —what do we find?

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[1] The traditions of English physicians would scarcely have permitted them to carry out this experiment.

EPIDEMIC OF AURAY (1866).—Vaccine lymph between two glass plates was sent from the prefecture of Vannes to a *sage femme* of Grandchamp: she vaccinated with it two children, neither of whom showed any evidences of syphilis, either before or after, though each of them had troublesome inflammatory action at the site of the punctures. One of these children served as the vaccinifer to a third. This latter child was employed to furnish lymph to more than eighty infants; she was apparently well and strong at the time, and subsequent examination afforded no evidence that she had suffered syphilis either before or after the vaccination. But among the eighty children for whom she furnished lymph, a large number suffered from serious symptoms; moreover, two of them having furnished lymph to a second series (probably not quite so large as the first), the children of this series were also extensively affected in a similar manner. The first vaccination with lymph from Vannes took place on May 21st; the Government Commissioners—MM. Depaul and Roger—examined as many of the affected children as they could find (42 of the first series and 17 of the second) on the 19th and 21st of August, and also received the informations of the local physicians who had attended the children at an earlier stage. They concluded (1) that many of the children examined by them were genuinely affected with secondary syphilis; (2) that it was impossible to account for their contamination otherwise than by the vaccination; (3) that the source of the syphilitic virus was probably in the vaccine lymph originally sent from Vannes.

Now, on analysing this history and the details of cases given by MM. Depaul and Roger,[1] we note the following important points:—(1) That there is a complete absence of any chain of etiological facts leading us up to the original source of infection; the lymph which vaccinated the first series of 80 cases having previously passed through two vaccinifers, *who were, and who remained, free from*

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[1] Bulletin de l'Acad. tome xxxii. pp. 201 *et seq.*

signs of syphilis. (2) Many of the cases, as described, afforded symptoms[1] which might well have been caused by a non-syphilitic and merely *irritant* lymph. (3) Mucous tubercles of the skin, which are among the most common symptoms of infantile syphilis, especially about the ano-genital region and the angles of the mouth, seem to have been completely absent *in nearly all the cases.* (4) Among all the 59 described cases, we do *not once find mentioned* the simultaneous presence of copper-coloured spots, mucous tubercles at the anus, and "snuffles;" yet this tripod of symptoms is, according to our experience, present in the majority of cases of infantile syphilis. (5) To conclude our criticisms on the cases reported by MM. Depaul and Roger, we must insist that *only a very few indeed of them* present symptoms that point at all to the diagnosis of syphilis; and the only phenomena that are common to the majority of the cases are such as might well have been caused merely by an unusually *irritant* lymph. Note here two facts:—first, that the lymph from Vannes was (from collateral evidence) very probably taken either directly, or at short genealogical distance, *from the heifer,* and that such lymph is well known for its *acrid* properties; and secondly, that while it failed to *syphilise* either of the two first vaccinifers, or the girl who was vaccinated from one of them (and then became the source of lymph for the series of 80), *it did excite suppuration and ulceration in all these three.*

But the Auray case is by no means concluded by the original reports of MM. Depaul and Roger. Subsequent inquiries have revealed the following important facts:—(1) Of 127 cases in which syphilitic symptoms were supposed to have presented themselves, 30 were specifically treated, and these all got well. But (2) *The remaining* 97, *who got no treatment at all, equally recovered, without an exception.* And quite recently, more than three years after the original vaccinations, M. Eugène Bordais recovered the histories of 70 of the children who suffered in 1866, and ascertained that they were still all of them alive, except two, *and these two had died of diseases quite unconnected with syphilis.* Is this a history of infantile syphilis? We ask the reader to turn to any of the standard treatises on that affection; he will find it uniformly described as a most mortal disease! It is true that an attempt was made, in the discussion at the Academy, to explain this anomaly by suggesting that inoculated syphilis was probably milder than the inherited disease. But Ricord, from the stores of his immense experience, instantly refuted this theory; and his denial is fully borne out by what we have ourselves observed. Accidental inoculation of syphilis upon infants, by the mothers or the nurses, is capable of producing most fatal effects, when neglected.

Upon the whole evidence we say, decidedly, that it is not proved that the epidemic of Auray was *an epidemic of syphilis at all,* far less that it was an epidemic of *vaccino-syphilis.*

It would be easy to show that if the evidence of vaccino-syphilis be weak in the instance of Auray, it is far weaker in the other cases which have been mainly relied on: especially in the great Rivalta case, it is so completely wanting in scientific fullness of detail, that we are at a loss to know how the commission of Italian physicians could ever have committed themselves to an acknowledgment[1] of the vaccinal origin of the disease. An epidemic of syphilis there certainly was: but there is not a tittle of proof that vaccine matter was the vehicle of this contagion.

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[1] Ulcers, with more or less induration of the base, at the site of the punctures; enlargement of axillary and cervical glands; roseola, which may have been non-specific for anything that appears; scattered pustules, with nothing diagnostic about them.

Surely we need not insist that such evidence as the above, even if it were adduced by a thousand independent witnesses, would have no logical value whatever as an answer to the induction by which it had been decided that vaccine as such cannot carry syphilis with it into the system. That a syphilised lancet used for vaccination might convey syphilis instead of cow-pox is true enough. That an extreme degree of carelessness—such as first selecting a syphilised infant as vaccinifer, and then taking up *blood* as well as lymph on the lancet —might convey syphilis to the recipient, is just possible, though in no way proved. But this is perfectly irrelevant to the performance of vaccination by practitioners of ordinary skill and carefulness. Such men are aware that it is a grave fault to take lymph at all, except from a subject believed to be healthy, and from a vesicle presenting the perfect form and clear opaline tint of the true Jennerian vesicle at the stage of its development which Jenner assigned as the appropriate time for transferring its infection; and they know, moreover, that it is an inexcusable blunder to extract blood, or anything but the pure lymph itself. And we may conclude this part of the subject by saying that of all the mistakes which comparative inexperience might lead a vaccinating surgeon to make, none are so easy to avoid, or so likely to be avoided, as those which by an extreme hypothesis are supposed capable of propagating infantile syphilis. In short, vaccino-syphilis is a bugbear and a phantom.

The considerations which have now been urged appear to us to amply acquit vaccination of causing any *mischief* whatever when reasonable care has been taken in its performance; and this acquittal cuts their main support from under the feet of those who object to compulsory vaccination on the score of tyranny. They also throw strong light upon some probable sources of such *imperfectly protecting* vaccination as still exists in this country, since they suggest several ways in which the want of special knowledge and study of the nature and course of normal vaccination may cause some vaccinators to be satisfied with imperfect results. But before we proceed to the final consideration of the appropriate means for improving the quality of our vaccinations, we shall here adduce some further evidence, which has just reached us, showing how little influence even these defects in the quality of the vaccination exert in checking the steady progress towards extinction of small-pox which is observed when once compulsion is thoroughly carried out.

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[1] The whole evidence about the Rivalta case, as recorded, is a mass of confusion. But it is shrewdly remarked by Dr. Seaton (Handbook, p. 334) that long before vaccination was heard of, Astruc recorded epidemics of syphilis which were to the full as disastrous, and as unaccountable, as that of Rivalta.

On application to Dr. Seaton, of the Privy Council Office, we have been courteously supplied with the facts concerning vaccination in Scotland and in Ireland. In the former country there was no Vaccination Act prior to 1863. The average yearly deaths from small-pox in the twelve years 1853–64 were 1,054; in 1865, 1866, 1867, and 1868, respectively, they were 175, 200, 124, and 25. Not to enter into unnecessary details, it may be stated that the Scotch Act has proved extremely perfect as a measure of compulsion pure and simple, and that ample documentary evidence exists to show that it really reaches all but a trifling fraction of the population. But it has three serious defects: (1) it allows too long an interval between birth and the performance of vaccination (six months); (2) as it does not provide public vaccinators, it at once inflicts unnecessary inconvenience on parents, and also neglects an important means of providing for a copious and constant supply of lymph under the best conditions; (3) finally, it contains no provisions for the inspection of the *quality* of the vaccinations (a most important and effective part of the English system), and no machinery (as it is not retrospective in its operation) for ascertaining the condition of persons born before January 1, 1864.

In Ireland, compulsion was not practically adopted before 1863. Vaccination was then made compulsory, within six months from birth, or persons born after January 1, 1864. The working of the Act is a triumph of administration; for notwithstanding that the law did not *compel* the local authorities to see it enforced, the Irish Poor Law Commissioners patriotically determined to carry it out: and they have put such pressure on the local boards of guardians and magistrates that the practical result so far is this: of 140,000 children born annually, more than 110,000[1] are *publicly* vaccinated, and the average is yearly increasing. *Private* vaccination no doubts afford protection to a considerable number, but not nearly all, of the remaining 30,000. The results upon small-pox mortality are striking and unmistakeable. Whereas in the periods 1830–40, 1840–50, and 1850–60, the respective annual average mortalities had been 5,800, 3,827, and 1,272; in the years 1864, 1865, 1867, 1868, they were 854, 347, 187, 20, and 19, respectively: in the first quarter of 1869 there were only three deaths, and in the second quarter *none*. There is great reason to believe that in Ireland the quality of the vaccinations is very high, as the system is practically worked by the Poor-law physicians (a vastly superior class to their oppressed and underpaid brethren in England), by the machinery of the very effective Irish dispensary system. Nevertheless, as in Scotland, the want of retrospective power prevents the Act from bearing on persons born previously to 1864. Secondly, the Act is inferior to that of Scotland in not providing adequate machinery for tracing defaulters.

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[1] As against 25,000 before the compulsory Act was passed.

The general results as regards Scotland and Ireland are: (1) that in Scotland nearly all the population born since January 1864 have been "vaccinated," but there is no certainty how far this vaccination was complete and effective; (2) that in Ireland the population (born since 1864) is less completely vaccinated, but the quality of the vaccination is probably, though not certainly, higher than in Scotland; (3) that notwithstanding the respective defects of the two systems small-pox has *steadily diminished, and is at present nearly extinct in both countries;* but that (4) in consequence of the defects above enumerated, there is, doubtless, in both countries, a considerable number of unprotected persons, who, in the event of an accidental importation of virulent small-pox from a foreign source, would form a nucleus for epidemic extension, though this would probably be very limited in comparison with those of former years.

And now, at length, we are in a position to give a final answer to the question, whether vaccine lymph degenerates by the mere fact of prolonged humanisation. That answer must be a *direct and absolute negative;* for it is impossible that, in face of the enormous difficulties which have opposed the complete diffusion of efficient vaccination, such magnificent results as those now detailed should have been achieved, had there been any continuous degeneration of the lymph itself; and these results upon the broad scale are rendered tenfold more striking when they are placed side by side with such an *experimentum crucis* as is afforded by the absolute protection, during thirty years, given by first-rate vaccination to all the nurses exposed to the unique ordeal of continuous waiting on the sick in the Small-pox Hospital.

Upon no reasonable grounds can it be any longer denied that the compulsory extension of efficient vaccination to the whole population opens the sure road to the extinction of small-pox. Upon no reasonable grounds can it any longer be pretended that vaccination cannot be made absolutely harmless. Either, then, the State has no duties towards the citizens in respect to their health at all, or two of its most important duties are, to provide compulsory vaccination and to see that it is properly performed. Compulsion is perhaps sufficiently attained by the Amended Vaccination Act of 1867. The efficient performance of vaccination must form the topic of our concluding remarks. We may fairly leave to the Medical Department of the Privy Council the consideration of any possible modifications in the machinery of organization. But in regard to the effective performance of vaccination—such performance, namely, as shall give the maximum of protection—there are two series of facts which cannot be too often or too emphatically repeated at the present time. The first is, that the official inquiries made on behalf of the Privy Council prove distinctly that some vaccinators are culpably careless as to the two prime necessities—(*a*) of producing a large amount of local infection, and (*b*) of satisfying themselves that the cicatrices left are of the true Jennerian type.[1] The second is, that without the observance of these precautions the protective value of vaccination is greatly deteriorated. Upon the former point evidence which is far too copious for reproduction here will be found in Dr. Seaton's Handbook. Upon the latter, there needs no other testimony, though plenty could be produced, than the following table of Marson's extensive observations. In 5,000 cases of so-called post-vaccinal small-pox, observed at the Small-pox Hospital in the years 1836–55, the following particulars were noted:—

Classification of patients affected with small-pox.	Number of Deaths per cent. in each class respectively.
1. Unvaccinated	35·
2. Stated to have been vaccinated, but having no cicatrix	25·57
3. Vaccinated—	
a. Having one cicatrix	7·73
b. Having two cicatrices	4·70
c. Having three cicatrices	1·95
d. Having four or more cicatrices	0·55
α. Having well-marked cicatrices	2·52
β. Having badly-marked cicatrices	8·82
4. Having previously had small-pox	19·

The whole story of good and of imperfect vaccination is told in these striking figures. The medical profession may well afford to disregard the monstrous fables and absurd alarms which are circulated from time to time, as to the conveyance of horrible infections by the medium of vaccine lymph. But in regard to their slackness in adopting, to the fullest extent, the standard of excellence in vaccination, for preventive purposes, which has been laid down by the best authorities, they have much to answer for. Let them look to it, for their credit is at stake upon a matter of infinite importance, as to which the public, when they know the facts, are not likely to be lenient judges.

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[1] A depressed cicatrix, *foveated*, i.e. pitted with numerous depressions, corresponding, doubtless, to the cellulated structure of the true Jennerian vesicle.

Reviews.

Scarlet Fever and its Prevention. By FRED. SMITH, Esq. Malvern: H. Cross.

IN this little pamphlet Mr. Smith seeks to reply to an appeal recently made for a simple remedy, generally available and easily carried out, for preventing the spread of this disease. He notes the fact that, on the authority of Watson, West, Budd, and others, no definite time can be named at which persons who have gone through the disease can safely mix with others, and therefore insists on the advisability of allowing no means to be omitted which are known to exert a disinfectant power, or which may tend to limit its extension; and then he embodies in several sections, including, 1. "What should be universally known;" 2. "The duty of parents;" 3. "Directions to nurses," "Public schools' suggestions," and "Duty of local authorities." We think his proposals, which, however, contain little that strikes us as new, are sensible, and if fully acted on would no doubt materially diminish the spread of scarlet fever. He suggests that a Scarlet Fever Conference should be held by the head masters of all the large public schools, at which the whole subject should be fully discussed.

harmacological Studies on Quinine. By C. BINZ. Virchow's Archiv, Bd. xlvi. pp. 67—105, 129—168.

THESE eighty pages form the continuation of the work of the author which we have already quoted on the same subject. He begins with an historical introduction, in which the opinion of our countryman Pringle (Royal Society, November 21, 1750) is discussed. Binz, however, did not know these views when he found out that quinine is a powerful antiseptic, more powerful even than arsenic. The experiment made with three solutions (1 to 500) of hydrochlorate of quinine, of white arsenic, of arsenite of potash, and small cubes of roasted meat is described. Then the theoretical doubts which arose against the above-named assertion, because quinine, under certain circumstances, is itself subject to *mould*, are accurately discussed and confuted by a series of experimental demonstrations. *Neutral* solutions of quinine never mould, but only acid ones, and sulphuric acid most particularly predisposes to it. The best way of administering quinine is in the form of the hydrochlorate, which is easily soluble in fifty parts of water, and therefore has no need of acid, and does not trouble the stomach as the sulphate does, which is soluble only in 750 parts.

A series of difficult experiments on septicæmic dogs shows us that quinine is also an antiseptic remedy for internal states, as Pringle, in fact, had already supposed. Amongst the twelve animals treated with quinine, there was not one case that was entirely unsuccessful. An animal made ill by the same putrid matter served each time as a control. Three under the influence of quinine were finally saved; the nine other subjects either died later, either of the septicæmia, or else not of the signs of putrid decomposition, but of symptoms which arose from the other poisons contained in putrid liquids.

A letter of the celebrated physiologist Helmholtz, which Binz publishes, may be of great interest, especially to the English medical world. Helmholtz suffered for twenty years from "hay fever." In recent years he discovered vibrions of a peculiar sort in the secretions of his nose. After becoming acquainted with Binz's experiments, according to which all inferior organisms are easily destroyed by quinine, he made the trial on himself with a solution of 1 to 750. He injected it into his nose, and found that the dreadfully troublesome symptoms of hay fever disappeared directly. Next year (1868), as soon as the illness showed itself, he again injected the quinine, and the development of the disease was suppressed. He supposes that the vibrions, of which he gives a sketch, are, perhaps, the cause, or at all events a complication, of this specific catarrh. The fact that the vitality of a great many infusoria is bound to certain seasons and periods of the year argues for the former idea, as also do the other circumstances of the case. If the local application of quinine is to be of use, it must, as Helmholtz particularly mentions, also cleanse the little corners and recesses of the nose proper, as the vibrions seem chiefly to be there.

Strong solutions of quinine, simply in water 1 to 100, without any additional syrup, &c., seemed just as successful in several cases of hooping-cough which Binz thus treated. He attributes this success to the effect which quinine, when being swallowed, had on the irritating mucus which fills the pharynx and upper part of the throat, and occasions the spastic irritation of the vagus. Hooping-cough is infectious, which can, however, only be accounted for by the nature of the phlegm. If it is chemically changed, the symptoms caused by it stop. Binz formerly proved that quinine energetically disturbed the elements of all mucus; yet he says that a greater number of successful cases than he himself has observed are necessary to fully assert the healing power of quinine for hooping-cough.

In the second part of his experiments Binz shows that some substitutes for quinine, used in intermittent fever, possess antiseptic and antizymotic power as well. They have, too, the same effect upon the white blood-corpuscles as he formerly proved quinine itself to have. Only cinchonine, bebeerine, and picrate of soda were tried, as still mostly used. All that is as yet known about the antiphlogistic effect of quinine is then summed up. A number of experiments follow, which prove that quinine hinders, in a special manner, the formation of ozone within organic fluids. We cannot give an extract of them, as they must be examined in detail. Researches of G. Harley are also quoted. From all this it follows, that as yet it is unnecessary to take the nervous system into *direct* account to explain the mode of action of quinine, particularly as there is not a single experimental proof on higher animals to demonstrate its co-operation. Binz, however, does not wish to exclude the possibility of it.

In conclusion follow some researches upon the appearance of quinine in urine, and upon its remaining in the body. They show that it goes through the blood, the greater portion unchanged, and after two days is still present. This persistence in the organism is one of the causes why quinine acts so favourably; another one is, its being generally so harmless, even when taken in large quantities. Other substances also operate chemically on ferments, white puriform cells, &c., as well as quinine—strong mineral acids, arsenic, bichloride of mercury, camphor, alcohol; but they are either strong poisons, or are decomposed too quickly in the blood. (Carbolic acid may be said to be most like quinine.) It is only in this sense that quinine seems to be a specific remedy.

Clinic of the Month.

Therapeutic Value of Milk.—Dr. Donkin commences in the *Lancet* a series of papers on the therapeutic properties of milk, and in the one now published gives an historical account of the estimation in which it has been held by various physicians of eminence. He considers that since the dawn of modern pathology the dietetic treatment of disease as a branch of therapeutics has been woefully neglected. He points out that milk is an animal secretion destined exclusively for the purpose of food, this being its *only function;* that it is employed as the food of *all* young mammals, however varied their subsequent food; that it is much more easily digested and assimilated than any other alimentary substance with which we are acquainted; that it requires no cooking, and that it may be justly regarded as a natural device for the transference of the blood of the adult mother into the vascular system of the young mammalian—*a kind of natural transfusion.* It is further of importance to remember that substances extraneous or foreign to its composition can be introduced into it through the food of the female secreting it, so that it may be made to act medicinally or toxically on those consuming it. It appears that in Italy in the latter part of the fifteenth century meadows were specially cultivated to serve as pasturage for animals kept to yield milk for invalids. Each sick person was allowed a cow, a goat, or an ass, according to the nature of the case: this he led to graze on the particular spot on which grew the plants best suited for his malady. (See *Lancet,* Oct. 16.)

The Treatment of Rickets. — In a good paper on the pathology and treatment of rickets, contained in the volume just issued of St. Bartholomew's Hospital Reports, Mr. Holmes Coote arranges the treatment under three heads: first, the hygienic; secondly, the therapeutical; and thirdly, the mechanical. Of all measures, Mr. Coote thinks the most important is the removal of the child to some country district where the air is pure and the soil dry; the sea-side being in most cases to be preferred. The patient, lightly but warmly clad, should pass the greater part of the day out of doors, and no severe mental work be permitted. The diet should be light and nutritious; it should consist chiefly of milk and farinaceous food, of fruit and vegetables; meat should be given sparingly, and never when the breath is foul and the bowels disordered. Mr. Coote objects to tonics during the acute stages of the disease, as also to the use of cod-liver oil and other similar preparations which the stomach seems to reject. The child is in a state of low feverishness, which militates against the absorption of stimulants or the proper assimilation of food. Whenever the bowels are out of order, the alimentary canal should be cleared by the use of gentle purgatives, such as rhubarb and magnesia, or rhubarb and grey powder, or a dose of castor-oil. The state of heat, thirst, and general derangement may be greatly controlled by the administration of very small doses of tartar emetic. At the Orthopœdic Hospital, where this practice is largely carried out, the following formula is given:—Liq. antim. potassio tartratis ʒj, aquæ distill. ℥j; one drachm three times a day. Children of four or five may take two drachms. The medicine is continued for weeks or even months with good effects, the feverish symptoms being allayed, the thirst diminished, and the general nutrition of the body improved. There are times and circumstances which may render the use of cod-liver oil advisable, but the same benefits may usually be obtained by regulation, when possible, of the suitable articles of diet. As the acute symptoms subside, small doses of iron may be serviceable, and chalybeate waters offer a convenient and not unpalatable form. Quinine and other tonics may be useful in time. Mr. Coote then proceeds to observe that after the removal of febrile symptoms, and the re-establishment of healthy nutrition, the next most important indication is the prevention of deformity. After pointing out the difficulties that arise to prevent a child from being maintained in the recumbent position, he remarks that moveable couches, on which the patient can be wheeled about from place to place, are very desirable, enabling him to enjoy the advantage of change, and having by his side objects of amusement. For the treatment of genu valgum or genu varum the usual wooden splints with straps and buckles are applicable, while curvature of the spine will need stays strengthened with side steels, or the stronger apparatus of a pelvic band with steel crutches moveable by cog-wheels. These appliances are, however, ill suited to the very young, and are often injurious in the acute stages of the disease. The surgeon must be guided by his experience, for no definite rules can be laid down to suit each particular case. Mr. Coote finally states that when great curvature of the long bones, as of the tibia, remains in after-life, a condition productive of other and secondary deformity, benefit may be obtained by the removal of a wedge of bone by a subperiosteal operation, of which he saw a successful case treated by Mr. Little. (See *St. Bartholomew's Hospital Reports*, vol. v. 1869, Oct.)

On the Employment of Harelip Suture in Vesico-vaginal Fistula.—Dr. Patrick Heron Watson records a successful case in which harelip pins were employed in the following manner. The patient, deeply narcotized with chloroform, was placed in the prone position, with the legs hanging down and secured, the fistula being exposed with a duck-bill speculum. Two curvilinear incisions were made through the vaginal mucous membrane, embracing the fistulous opening; and the tissue being dissected off as far as the vesicle coats, the vaginal was separated from the vesical texture for a short distance. A pair of toothed forceps were then introduced up the urethra, and the fleshy margins of the aperture, now attached alone to the bladder, seized, and being drawn towards the cavity of the viscus, were kept away from the refreshed edges of the vaginal aspect of the fistula. Three four-inch acupressure pins were then introduced, penetrating the whole thickness of the vaginal tissues bounding the raw margin, the points of entrance and exit being more than half an inch from the edges of the opening. Thick silk twist was then carried round each needle separately with a straight-eyed probe, the edges of the wound being brought into apposition by gentle traction. When all three sutures were applied, not a drop of urine escaped. The vagina was guarded from the points of the needles by a narrow strip of lint. The patient was conveyed to bed, and a sigmoid soft-metal catheter introduced. Perfect recovery followed. Dr. Watson considers this method much superior to the tubular needle and silver wire operation. It appears, however, to have been a very favourable case for any form of operation in skilful hands. (See *Edinburgh Medical Journal*, Oct.)

Actual Experience in Hospital Practice of recently-vaunted Remedies.—Under this title Dr. D. M'Gregor gives the results of his observations obtained in the management of a workhouse hospital and asylum, containing from 1,000 to 1,300 inmates, of whom an average of 350 were under constant medical treatment. The remedies he selects for comment are: 1. Acupressure; of which, though his experience has been limited, owing to the comparative rarity of surgical operations requiring such means of arresting hæmorrhage, he is convinced of its great advantages over the ligature. 2. The treatment of cancer with injection of acetic acid: this he only tried in one case of scirrhus, the result being a signal failure—worse than failure, since it did harm by hastening the fatal issue. 3. Bromide of potassium. With this agent Dr. M'Gregor has had large experience, as 150 of the permanent inmates of the institution were insane, amongst whom were many epileptics. He speaks therefore with considerable weight, and his opinion is that he has never been able to *cure* a single case of epilepsy by this drug, though he has found it a most valuable agent in the mitigation of the disease. In several instances the disease appeared quite under its control, but after its withdrawal, however long it had been employed, it reappeared. He began with twenty grains three times a day, increasing it to the same quantity every two hours. The only ill effects observed were a papular rash on the face, with heat and itching, especially of the nose, and in one case diarrhœa. 4. Blistering in acute rheumatism. Amongst the class of patients he has had to deal with articular rheumatism is very common, and whether accompanied by fever or not, and however swollen or painful the joints, he at once applies a blister to every joint seriously affected. Within twenty-four hours complete relief is obtained. 5. Carbolic acid. Of this he gives a general approval, but finds that caries of the bone cannot be resolved or cured by it. 6. Ether spray has been less successful than he anticipated, especially in the extraction of teeth. 7. Holt's dilator for stricture he used in four cases with perfect success, and does not think advantage has been taken so extensively as might be of its decided usefulness. 8. Iodide of potassium he found very useful in from twenty to thirty, instead of five to ten, grains, for secondary symptoms. 9. The sulphur cure, both by fumigation and by spray, for catarrh and bronchitis he had an opportunity of trying on himself, but after giving them both a fair trial experienced little benefit beyond a slight softening of the cough when the sulphurous acid spray was used. He found, however, that patients in advanced phthisis experienced great relief and comfort from its use when the throat was parched and dry and thirst severe. These remarks seem to us to be very sensible and very faithfully express our own opinion on the remedies mentioned. (See *Edinburgh Med. Journ.* Oct.)

The Buxton Waters.—Dr. Robertson calls attention to the value of the Buxton waters in cases of rheumatism and gout, and the various morbid conditions allied to these diseases in origin and character. The temperature of the water is 82° Fahr.; it is very abundant, not less than 300 gallons per minute, and is remarkable for containing as much as 504 cubic inches of nitrogen in the gallon. The course of baths comprises from ten to sixty; and the effect depends closely on the amount of friction that is used during the immersion.

Extraction of Fish-hook from the Œsophagus.—What has happened once may occur again, and the plan pursued in the following by-no-means-unlikely accident was at once ingenious and successful. A woman swallowed a fish-hook to which a piece of string was attached. At the moment of swallowing she caught at the string, and fixed the hook about four inches below the commencement of the œsophagus. On examining the case Dr. Jonasson saw that for its safe extraction it would be necessary to devise an instrument which would dilate the œsophagus, and at the same time possess sufficient strength to dislodge the hook, with elasticity enough after dislodging to expand and prevent its point from again becoming entangled in the œsophageal wall. Having obtained one of the largest-sized gum-elastic catheters, the pointed end was cut square off. It was passed through a hole pierced in the centre of a piece of sponge, which was bound tightly to the cut end of the catheter, leaving about three-quarters of an inch of sponge free, the edge of this portion projecting about one-fifth of an inch beyond the end of the catheter; and in order to prevent it turning backward when introduced into the œsophageal opening, a thread was passed, by means of a common needle, in and out twice round the free edge of the sponge, and drawn sufficiently tight to prevent this, but without destroying its elasticity. An additional portion of twine was now added to that hanging out of the patient's mouth. The string was now passed up through the instrument, and this, with the sponge end downwards, was gently but firmly passed down the œsophagus until it reached that portion where the hook was fixed; at the same time sufficient tension was made upon the string, and when the end of the tube reached the hook, the shank was thus drawn into it; a little steady force directed downwards detached the hook, and another slight pull on the string firmly imbedded its point in the sponge, which expanding after its detachment effectually prevented entanglement during its extraction. The hook was found to be about one inch in length, and nearly three-eighths of an inch broad from shank to point. (See *Australian Medical Journal,* July 1869.)

Extraction of an Artificial Tooth from the Œsophagus.—Mr. Dearden relates a case in which a false tooth with its gold plate was cleverly removed from the œsophagus. A probang was first passed for eleven inches, and the position of the tooth discovered. Mr. Dearden then attached to the probang above the sponge about twenty nooses of horsehair: these, however, broke, leaving the tooth in the same place. Better success attended the introduction of similar loops of fine steel wire. After a little careful management, and the employment of considerable force, the tooth was brought up entangled in the nooses. With the exception of a feeling of soreness for the first few days after the operation, and restricting himself to a farinaceous diet, the patient felt no subsequent inconvenience. (See *Lancet*, October 16.)

Hypodermic Injection of Morphia for Vomiting.—Dr. Spender, of Bath, gives a series of cases in which the hypodermic injection of morphia proved useful in arresting obstinate vomiting arising from pregnancy, gastric disturbance, and brandy-drinking. In each case one-third or one-quarter of a grain was injected under the skin of the arm with speedy benefit. (See *Brit. Med. Jour.*)

Toxic Action of Quinine.—A case is reported by Mr. E. Garraway, in which a lady, aged 40, was suddenly seized with œdema of the face and limbs, accompanied by an unusual erythmastous rash and considerable uneasiness at the præcordia. She attributed it to having taken a white powder, purchased at a chemist's, in mistake for quinine: on examination it proved to be sulphate of quinine. After three or four days the œdema and rash subsided, and desquamation of the skin occurred. During convalescence quinine was unreflectingly ordered. Two hours after the first dose, which only consisted of two grains, she felt ill, and all the former symptoms recurred. (Ibid. Oct. 9.)

Extracts from British and Foreign Journals.

Bromide of Potassium in Typhus, &c.—Dr. Porter observes that all practitioners must have occasionally encountered cases analogous to those described by Graves, when in the latter part of their course subsultus, long wakefulness, muttering, raving delirium, cold perspiration, and involuntary discharges show exhaustion of the powers of life and approaching dissolution. The condition is atonic, and forbids everything which is in its nature depressant or destructive to the tissues; and yet in such cases it is that in the absence of a better remedy the eminent physician just named recommends the use of antimon. et potass. tart. in large doses with opium. "But is there not a more excellent way, involving less risk, and one based upon accepted notions of antimony on the one hand, and the supposed powers of the bromide on the other?" asks Dr. Porter. "In such cases," he proceeds, "musk was formerly resorted to, and more recently camphor and chloroform, taken internally, have been used; but there is reason to believe that the bromide of potassium, in combination with morphia or opium and antispasmodics, is more effective, safe, and salutary." Dr. Porter adduces various cases of typhoid fever, hysterical delirium, and infantile convulsions, in all of which this combination proved extremely efficacious. He states also, that though he has not found the bromide possess any anodyne influence in the pain of true inflammation, *e.g.* in the formation of an abscess, it is very useful in reflex pain; also in hooping-cough, laryngismus stridulus, in spasmodic retention of urine and urethritis, and in headache resulting from passive congestion, when remedies directed to the stomach utterly fail. In isolated pathological states of the system like those named, also in spermatorrhœa, orchitis, palpitation of heart from reflex or sympathetic action, its sedative influence is obvious and important. Dr. Porter observed only a single instance of noxious or unpleasant effects. This occurred in a lady, whose system was unusually sensitive to the action of every medicinal agent, one-fourth of an ordinary dose being ample. Only four grains of the bromide would speedily produce numbness in the extremities, and shooting, burning pains throughout her whole system, both gradually passing off without other evil consequences. The fact was repeatedly tested, and always with the same result. (*Hay's American Journal.*)

Neurosis of the Stomach and Intestines.—Dr. Porcher, of Charleston, calls attention to a peculiar form of disease he has met with on several occasions, and to which he suggests the above name should be applied. The principal symptom complained of was severe pain in the upper part of the abdominal region, without tenderness or other symptom of inflammation. He considers that the essential cause of the whole trouble is to be found in the disturbance of nutrition, and consequent malassimilation of food, which protracted anxiety, distress, or doubt give rise to; conditions that appear to have been present in all his cases. As a consequence of the imperfect digestion and assimilation of the food anæmia results, which again deranges the functions of the nervous system. He attributes the phenomena to a "hyperæsthesia of the nerves of the gastro-enteric mucous membrane, or it may be an erethism, which is something more, caused by prolonged derangement of the digestive functions," in persons whose nervous power had become depressed by a "long train of agencies acting on the mind and feelings, these reacting upon the digestive and assimilatory organs, and deteriorating the blood." Dr. Porcher recommends quinine and iodine of potassium with muriate of ammonia as the most appropriate remedies. Dr. Porcher appends to his paper some notes of cases of hyperæsthesia, in which various drugs are employed without benefit—as quinia, hyoscyamus, aconite, strychnia, morphia, steel, &c.—but which were ultimately cured by large (scruple) doses of the bromide of potassium, in some instances combined with a little morphia. (*Hay's Amer. Journ. of Medical Science,* July 1869.)

Treatment of Hospital Gangrene.—Dr. Doughty observes that in reply to the question, How should hospital gangrene be treated? many surgeons answer, "Burn it out," as though, notwithstanding its constitutional features, it could only be eradicated by potential caustics, nitric acid, chloride of zinc, sulphate of copper, &c.: but recognising the importance of such applications to malignant growths and foul ulcers of every description, to which hospital gangrene bears a certain analogy, it may be asked whether this is the only available treatment, and its measure of success so great as to demand its uniform and exclusive adoption. Now, since there is no question that a constitutional element is present in the disease, this demands and should receive the greatest attention. Unless this is done, all local treatment, whether by escharotics, disinfectants, stimulants, solvents, simple dressings, or even removal by amputation, is unavailing. Of the internal or constitutional remedies, iron, chlorine, and mineral acids are the chief, and when given under favourable hygienic circumstances are comparatively certain in their results. With these should be combined a fair allowance of a nutritious diet and fresh air. In regard to the local disorder, the dead tissues must be removed, local inflammation subdued, the foul surface thoroughly cleansed, its fetid emanations corrected, and the whole series of local circumstances, tending to foster and perpetuate the disease, must be broken up. As a local disinfectant, Dr. Doughty, whose experience during the civil war seems to have been considerable, found tar water extremely useful, probably from its containing small proportions of pyroligneous acid and creosote. He found also turpentine to be a good solvent for the putrid slough, hastening its separation, and stimulating within safe limits the adjacent parts, exerting also, when internally administered, peculiarly beneficial effects upon the blood, being, when aided by good diet and tonics, even adequate to the cure of the disease. Dr. Doughty appears to think that carbolic acid has no claims superior to those of chloride of sodium, permanganate of potash, pyroligneous acid, or creosote, nor in particular to those of tar water. (*Richmond and Louisville Medical Journal*, Aug. 1869.)

M. A. Cullerier, late Surgeon to L'Hôpital du Midi, gives for the abortive treatment of gonorrhœa large doses of copaiba—from four to five drachms a day. This is continued for four or five days after the discharge disappears. When the inflammatory stage is over, he uses the following injection to complete the cure:

℞. Sulphate of zinc,
Sugar of lead, } aa gr. xv.
Water, f. ℥iv.—M.
S. Inject twice daily.

Or, ℞. Alum, ʒss.
Water, f. ℥iv.—M.
S. Use as an injection twice daily.
(*Baltimore Medical Bulletin*, vol. i. 16.)

Warts may be readily cured by cutting a hole in a piece of sticking plaster, the size of the wart, applying the sticking plaster so that the wart protrudes, and then using—

℞. Caustic potash, ℥ij.
Gum arabic, ʒss.
Flour sufficient.
M. Make a paste.
S. To be left on for a few hours. (Ibid.)

Bromide of potassium is an invaluable remedy in pertussis. Dissolve one drachm in four ounces of water, and add from two to four fluid ounces of syrup of marsh-mallow. Give one teaspoonful of this mixture to a child every three or four hours. (*Baltimore Medical Bulletin*, vol. i. 16.)

SAWDUST pills would effectually cure many of the diseases with which mankind is afflicted, if every individual would make his own sawdust. (*Centralblatt*, No. 26.)

Action of Opium on the Uterus.—Dr. P. C. Barker observes that before the expulsive contractions commence, which terminate the process of labour, the circular fibres of the os and cervix must relax, whilst the longitudinal and oblique fibres of the body contract; irregular contractions of the different sets, or contractions of the circular fibres alone (constituting false pains), or rigidity of the os uteri due to contraction of its circular fibres, often prevent their physiological dilatation, and are the cause of much distress and annoyance. It is in cases of this kind that he found in opium a valuable parturient agent. In his first cases he administered morphia or opium simply, with the intention of affording a respite to the patient from the pains; but the results of his observations convinced him that whilst opium stimulates the fibres of the body of the uterus (longitudinal and oblique), it also relaxes the circular fibres of the os; that it has, in fact, a peculiar anodyne effect upon false pains; and he is fully persuaded that it never did or can arrest a physiological labour. On the same grounds he supports its use in cases of dysmennorrhœa dependent on spasmodic contractions of the circular fibres, or where it is owing to the presence of menstrual decidua clots, &c. And again in abortions, in which it facilitates dilatation, diminishes hæmorrhage, promotes the expulsion of the placenta, and lessens suffering. Ergot, on the other hand, he remarks, by causing contraction of the circular fibres, retains the placenta, and therefore should rarely be given (in abortion) until after the fœtus and secondaries have been expelled. In placenta prævia it meets two important indications: facilitating dilatation, and thus shortening the period of greatest danger; and secondly, promoting the expulsive power of the uterus. It also, he thinks, serves to lessen hæmorrhage by a special hæmostatic action. Lastly, he has used it with great advantage in cases of hourglass contractions, which he attributes to the use of ergot, and in which the use of opium is pronounced objectionable by many authorities. (*Philadelphia Medical and Surgical Reporter*, vol. xxi. p. 54, 1869.)

Clinical Investigation of Hysteria.—M. Chairou has read before the French Academy of Medicine a paper in which he has arrived at the following conclusions:—1. Whenever compression or inflammation of one or both ovaries occurs in a young woman, paralysis of the reflex movements of the epiglottis and all the organs entering into the formation of the pharynx occurs. 2. Whenever these two phenomena occur simultaneously in the same person, the foundations are laid of a condition termed by the author the hysterical cachexia. 3. The hysteric fit is only the consequence of this reflex paralysis. The epiglottis is drawn down over the superior aperture of the larynx, and being unable to rise, symptoms of suffocation follow, with convulsions and the spasms which characterise the fit. 4. The asphyxia consequent on repeated attacks leads to a perversion of vitality in the form of various kinds of sensorial disorder and the anæsthesia which are known to occur in all hysterical patients. Finally, the treatment should be addressed directly to the functional disorders of the ovaries; it ought especially to be local, in order to induce resolution of ovaritis, the principal if not the only cause of all these disorders. (*Archives générales de Médecine*, Oct. 1869.)

Decotinized Tobacco.—Dr. Williams, an American physician, residing at Milwaukee, contributes an article to the *Chicago Medical Journal*, in which he states that it is not generally known that tannic acid decotinizes tobacco, and gives the following particulars, which will, we think, interest our readers. "If the bowl of a pipe is filled about one-fourth full of tannin, filled up with tobacco, and smoked, the aroma of the tobacco is almost entirely destroyed, and the smoker scarcely feels the effect of the tobacco on his nervous system. The experiment is more striking if a bit of sponge is saturated with a saturated solution of tannin, and placed in the bottom of the pipe. The smoke of the first two pipefuls of tobacco will pass out as vapourless and innocent as the smoke of a child's rattan or grape-vine cigar, and as devoid of tobacco smell. The Turkish pipe, which is provided with a reservoir containing water, answers the purpose admirably. The place for water may be filled with a saturated solution of tannin, or what is better—as it prevents the unpleasant bubbling noise—a sponge saturated with the solution. By changing the sponge often enough, a person may smoke as immoderately as he pleases without any injurious effects, and it is particularly recommended to ambitious young gentlemen whom the weed in its natural condition 'makes sick.' I am not sanguine, however, that mankind will avail themselves of the advantages of this discovery. It will be like the Frenchman's antidote to the intoxicating effects of alcoholic potations—it destroys the very effect for which the poison is used! The North American Indians were wise, however, and availed themselves of this discovery hundreds of years ago. It is well known what inveterate smokers the Indians are, and still we never see any injurious effects of this habit upon them. This may be due in part to their vigorous constitutions and hardy nomadic life, but it is mainly due, I think, to the form in which they use their tobacco. Until they learn the habit from the whites, they rarely or never use the pure leaf. Their 'Killikinnick'—the agreeable aroma of which, once inhaled in a wigwam or lumberman's cabin, can never be forgotten,—is composed of equal parts of tobacco and the inside bark of a species of the *Cornus coricea.* Sometimes the admixture of tobacco in it is not more than a fourth. This bark is astringent, and abounds in *tannin,* and therefore in a great measure neutralizes the effects of the tobacco. The fancy brands of smoking tobacco labelled 'Killikinnick,' sold by tobacconists in papers, it is needless to say, are pure tobacco, and have no real claim to the name. The Indian name for the particular species of swamp dogwood which they use for smoking is 'Kinnikinnick:' hence the name. As we learned the art of smoking from the American savages, it would be only showing proper respect to their tastes to take the weed as they do. They peel the inside bark of the shrub, dry it, pound it to a powder in their stone mortars, and then mix intimately with the crumbled tobacco."

In connexion with the above subject, M. Armand has recently presented a memoir to the French Academy of Medicine, in which he states that water-cresses destroy nicotine, without impairing the aroma of tobacco, and he therefore recommends that tobacco before being smoked should be moistened with a fluid of which the base is an infusion of water-cresses.

Thoracic Puncture in Hydrothorax.—Professor Ziemssen remarks, that considering how commonly paracentesis of the abdomen is practised, it is remarkable how seldom the thorax is punctured, even in cases of double hydrothorax, though the effusion and distress experienced in the one case are incomparably greater than in the other. The reason of this is, probably, that the danger of evacuating fresh exsudate is much exaggerated, and, according to the author, without any grounds. It is true that in incurable affections it only acts as a palliative, but the same may be said of paracentesis of the abdomen for cirrhosis of the liver; and he gives an instance in which he tapped the thorax sixteen times running with good effect, each time prolonging life for several months. He considers the operation to be indicated in double hydrothorax, consequent on disturbances in the heart and lungs, or on tumors within the thoracic cavity, Bright's disease, &c., when the compression of the lungs has attained a sufficient degree to produce severe dyspnœa. The level of the fluid should reach that of the second or third rib in the standing posture. A grooved needle should first be introduced, the pain of which, as well as of the trocar, may be abolished by Richardson's ether spray apparatus; then the patient being seated, the trocar should be entered as usual, at about the sixth or seventh intercostal space in front of the axillary line, near the upper edge of the lower of the two ribs. The discharge of fluid takes place interruptedly during expiration only, especially towards the end of the operation, and air sometimes enters with a gurgling noise, but without producing any injurious effect. A piece of sticking-plaster should be placed over the wound.

New Food for Infants.—M. Nestlé, of Vevey, has proposed the introduction of a new food for young infants, to which he gives the name *Farine lactée.* This food is composed of perfectly pure milk, evaporated in a vacuum at a low temperature, of bread which has been submitted to a high temperature, and of sugar. These ingredients are incorporated in certain proportions, calculated to produce a food of similar composition to human milk. The preparation is made into the form of small granules, of a yellowish-white colour. According to M. Barral, the food contains, in 1000 parts, 19·5 of nitrogen and 7 of salts: it results that by diffusing 1000 parts of this food through 3000 parts of water, a milk is obtained which contains in 1000 parts 4·87 parts of nitrogen and 1·7 part of salts. Woman's milk contains 4·83 of nitrogen and 2 of salts: consequently the two liquids are very nearly identical in the proportion of their elements. M. Nestlé very justly observes, that for the nourishment of an infant nothing can fully replace the milk of its mother; but when this natural food is unattainable, it should be imitated by something as similar in composition as possible. (*Pharmaceutical Journal,* October 1869.)

A New Cement.—The *Journal de Chimie médicale* states that an excellent cement may be made by dissolving 1 part of amber in 1½ part of bisulphide of carbon. This liquid is applied by a brush to the surfaces it is wished to unite, and on pressing them together the cement dries almost immediately. (Ibid.)

Iodized Milk.—This is a preparation which contains iodine in a state of such intimate combination, that its presence can be detected neither by the taste, smell, nor by the eye. The activity of the drug when in this state of solution is diminished, apparently because it is in combination with the protein-corpuscles of the milk, and as much as five times the amount may be administered that is ordinarily given of the solid substance. The greater part, two-fifths, of the iodine consumed in the form of iodized milk is again discoverable in the urine. Hager states that iodized milk appears to him to be the mildest form in which it can be given, being superior in this respect even to iodized starch. He found that milk could be taken, containing from half a grain to as much as four grains, at one dose, without occasioning the least inconvenience. If the tincture of iodine be added to milk drop by drop, the milk quickly assumes a yellow colour; but it is only requisite to warm the fluid slightly and to agitate it gently, to cause the iodine, which at first is to some extent precipitated, to be redissolved. Iodized milk possesses the advantage of being capable of keeping for a week before it acidifies or spoils; the cream which rises to the surface can be again equably diffused through the milk by agitation. The mode of prescribing it is as follows:—

Lac iodatum,
M. Lactis vaccini opt. ℥iij,
in vas vitreum vel porcellaneum ingestis et paulum calefactis sensim atque inter lenem agitationem affunde;
Iodi puri, gran. 15,
antea leniore calore solutum in
Spiritus vini rect. ʒiij.
Mistura leniter agitetur, donec denuo albissima appareat.
A tea-spoonful contains about one grain of iodine.

(*Der praktische Arzt*, August 1869.)

The Treatment of Prolapse of the Umbilical Cord.—An interesting paper on this subject appears in the *Praktische Arzt* for August, from the pen of Dr. Massmann. He has collected the histories of no less than four hundred cases, of which upwards of forty came under his own observation, either in private practice or as assistant physician to the hospital at Breslau. It appears that, from the statistics of Scanzoni, the proportion of cases in which prolapse of the umbilical cord occurs is as 1 to 254 births. The author, however, gives a much higher figure, estimating it at 1 to 123. It is absolutely most frequent in head presentations, but only because these are far more common than breech or cross presentations: the frequency of prolapse is *relatively* very much greater in the latter. It is especially liable to occur whenever the lower segment of the uterus is not fully occupied by the presenting portion of the child. Hence it is met with in cases where the head is high in the pelvis, or is directed more or less to one side. It is not the pelvis, but that contraction of the lower segment of the uterus which occurs in normal delivery, that keeps the umbilical cord from prolapse. The statement made by Fried and Schmidt, that a pelvis of great width predisposes to its occurrence, is incorrect, since it is precisely in these cases that the head rarely sinks into the pelvis. According to Michaelis and Hildebrandt, the chief circumstances favouring prolapse are irregularities in the position of the child or head, and all circumstances occasioning great dilatation of the uterus, as hydramnios, twins, &c.; but besides these may be mentioned low attachment of the placenta, great length of the cord, previous prolapse of a small portion, premature birth. The death of the child, which occurs in 54 per cent. of the cases, according to Scanzoni, and in 45 per cent. according to Dr. Massmann, is not the result of cooling of the cord, but of the pressure upon it preventing the passage of the current of the aerated blood from the placenta: the child consequently dies asphyxiated. The accident is most dangerous at the symphysis, on account of the pressure being immediate, severe, and persistent. The treatment of prolapse of the umbilical cord of course consists essentially in protecting or removing it from pressure as quickly as possible. The former indication is fulfilled by the replacement of the cord, the latter by speedy delivery. Formerly the latter mode was always adopted; the former was first recommended to be adopted as a general rule by Michaelis. Inasmuch as the replacement of the cord involves the introduction of the whole hand, it is necessary that the os should be sufficiently dilated. If this be not the case, and the liquor amnii have not escaped, we must wait, and endeavour by slightly altering the position of the head to bring about spontaneous reposition. Hohl's recommendation is, whilst the head is descending during a pain, to keep two fingers pressed against the loop of the cord. But if it be found that even with unruptured membranes the cord is exposed to dangerous pressure, Hüter proposes that, providing the mouth of the uterus will admit the hand, to replace the cord, then to rupture the membranes and place the head in position. Pursuing this plan in ten cases, the author was fortunate enough to deliver ten living children. In cases, however, where the waters have been discharged, and the cord is prolapsed into the vagina whilst the head is low, the forceps must be at once applied and delivery effected. If, however, the head be still high and moveable on the brim of the pelvis, whilst the os is sufficiently dilated to admit the hand, replacement is indicated, the statistics here being that 73 children out of every 100 survive. If, on the contrary, the expectative treatment be adopted, and the attendant waits till the head is sufficiently low to admit of the application of the forceps, only 49 per cent. of the children are saved. When replacement of the cord is determined upon, it should be accomplished with the whole hand; the right being used when the loop is on the left side, and *vice versâ*. Small loops may be pushed back with the tips of the four fingers, but larger ones cannot be replaced in this way. In such cases the author thinks it is most advisable to collect the whole loop into a mass, supported on the tips of the fingers and hollow of the hand. The hand is then to be slowly passed into the uterus, firmly pressing all the time on the head, and care must be taken to introduce the cord completely over and beyond the head. Before being withdrawn, the hand should be twisted about one-fourth of a circle, so as to extract it through the opposite side of the pelvis. The normal position of the head and the complete occlusion of the lower segment of the uterus are the only means of retaining the replaced cord. Hence the head should, if displaced, be put into the normal position, and the hand should be retained in the uterus till it is felt that the lower segment of the uterus has firmly contracted, and the occurrence of this may be hastened by friction. If an arm present, this must be replaced either by itself or simultaneously with the cord. If a foot and arm present, the foot must be brought down. When the replacement is effected, the case must be left to nature, cramping pains being removed with a dose or two of Dover's powder. Often after reposition of the cord the uterus relaxes, and labour is stopped for several hours; and this is usually without danger to the child. The mere want of pulse in the cord is not a proof of the death of the child, and should not lead to neglect of its replacement. (*Der praktische Arzt*, Aug. 1869.)

Therapeutic Action of Cubebs.—The employment of cubebs is very common in this country, either alone or as an adjunct to copaiba in the treatment of gonorrhœa. The drug has recently been subjected to careful examination by M. Heidenreich, with a view of ascertaining whether it possessed the powers attributed to it, and in which of its constituents those powers resided. By treatment with ether he obtained an oleoresinous material, the oil and resin of which he subsequently separated. He first experimented therapeutically with the oil, administering seven grains every hour for twenty-four hours. No particular effects were observed; there was no alteration in the urine, and only a slight sensation of heat was experienced in the stomach. The resin had the consistence of honey, and when taken in doses of from 7 to 90 grains, it produced a lively sensation of heat in the stomach, and rendered the urine irritating, at the same time increasing its quantity. He further obtained certain white crystals of cubebin destitute of taste and odour, which produced, when taken internally, no sensible effect. Hence M. Heidenreich concludes: 1. That the diuretic properties of cubebs reside in the resin; 2. That cubebin is inert; and 3. That the volatile oil only produces the irritation common to it with other essences. (*Journal de Pharmacie et de Chimie*, September 1869.)

The Uses of Carbolic Acid.—Carbolic acid is now so frequently prescribed in various forms and for various purposes that the following *resumé* drawn up by Mr. T. A. Readwin may be acceptable to some of our readers. "As a rule," he says, "it is better to dissolve the crystallized carbolic acid (Calvert's) in the proportion of one part by weight of the acid to six of glycerine (carbolate of glycerine). In this state it can be equally diluted to any degree of strength. In general: a *dose* of carbolic acid is one grain in an ounce of water; as a *gargle,* one or two grains to an ounce of water; as an *injection,* one grain to four ounces of water; as a *lotion,* fifteen grains to an ounce of water; as an *ointment,* sixteen grains to an ounce of benzoated lard; as a *liniment,* one part to twenty of olive oil; as a *plaster,* one part to three parts of shellac; the crystallized acid to be used as a *caustic;* the carbolate of glycerine, as above, use in one or two drops internally. Antiseptic oil for abscesses, one part of acid to four of boiled linseed oil; antiseptic putty, six spoonfuls of the antiseptic oil mixed with whiting. For disinfecting purposes generally, one pound of crystals to six gallons of water; fluid, one part to eighty of water; powder, one ounce of crystals with four pounds of slaked lime. For drains, one pound of the fluid carbolic acid to five gallons of warm water. Toothache is often cured with one drop of carbolate of glycerine; and diarrhœa arrested in half an hour with two drops in a wineglass of water. In all cases when the destruction of parasites is required, it is advisable to commence with very diluted carbolate of glycerine. (*Pharmaceutical Journal,* October 1869.)

Action of the Pancreatic Juice. — MM. Chauvin and Morat have lately re-examined the action of the pancreatic juice, and in a paper read before the Academy of Medicine state that generally their results agree with those of previous experiments, and that they found the action of the juice was not interfered with by the presence of gastric juice or of diluted hydrochloric acid, but that when introduced into the stomach, notwithstanding the presence of the gastric juice, all the three principal constituents of our food were acted upon. They also state that in a clinical point of view they obtained remarkable effects both with the juice and with the extract of the pancreas. (*Archives générales de Médecine,* October.)

New Tonic and Febrifuge.—MM. Ossian Henry, Alfroy, Duguet, and Perret have presented a note to the French Academy of Medicine on a new tonic and febrifuge, congeneric with quinine, the quinopicric acid. The authors state that there exists in the cinchonas together with quinine several active alkaloids, which for various reasons have not hitherto been utilized; further, that these alkaloids, in combining with picric acid, may form a yellow crystalline or amorphous product, to which they apply the term quinopicric, which possesses properties identical, or nearly identical, with sulphate of quinine. Lastly, that the cheapness of this substance will allow the poor to benefit from the compounds of quinia. Its administration in three cases of intermittent fever was followed by a good result.

Notes and Queries.[1]

Two Cases of Carcinoma Uteri treated with Carbolic Acid locally.—Dr. Edwards, of Gloucester Crescent, sends us the following very important cases:—

"*Case* I.—Mrs. N——, aged 39, the mother of five children, a native of Jersey, the wife of a captain, first consulted me November 17th, 1868, for menorrhagia, the discharge being extremely offensive. On examination *per vaginam* I found she was suffering from extensive malignant disease of the uterus; the discharge was of the colour of a dark brown sanguineous fluid, and very offensive; the neck of the uterus was nearly destroyed, leaving the body of uterus open, all the symptoms of cancer being present; the urine also was highly albuminous. Her general health had been declining for eighteen months, and she had been under medical treatment, but no vaginal examination had been made. The treatment I commenced in the case was the internal administration of quinine, gallic acid, and opium, and locally cotton-wool pessaries saturated in carbolic acid, glycerine, and oil, the acid being in the proportion of one to eight of almond oil, and a liberal and nutritious diet recommended. This treatment was continued up to January 7, 1869, when I was summoned in haste, and found her insensible, convulsions occurring during the night; and on the next day the nurse informs me partial sensibility returned, but no water had been passed for some eighteen hours. I at once introduced a catheter, and found the bladder empty. I immediately changed the treatment; drycupped over the loins, ordered hot fomentations and salines with 10-minim doses of Tr. digitalis; the suppression of urine continued till the 11th, when some water was discovered in the bed; insensibility continued more or less up to the day of death, 17th February, when another convulsion came on, and she expired in the evening. For some days previous to her death there was anasarca.

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[1] The Editor, being desirous of making this department a useful medium of communication between practitioners, will be glad to receive short notes on theoretical or practical points in therapeutics,—brief jottings on those numerous queries which suggest themselves from time to time to a medical man as he "goes his rounds," but which he has neither the time nor, in some cases, the opportunity of answering. The Editor does not pledge himself to reply to every question addressed to him, but he hopes to make the "department" the means of supplying the information required; and this he can only effect by the hearty assistance of his readers.

"*Case* II.—Mrs. B——, aged 41, a plethoric and healthy-looking woman, first came under my notice September 6th, 1869, suffering from severe pains in the abdomen and a vaginal discharge. She states she has two children, and has been in excellent health up to four months previous. On examination *per vaginam* I found her suffering from cancer; there was profuse hæmorrhage on her exerting herself. I ordered an injection composed of one part of carbolic acid, glycerine ℥j, and ℥xx of water. This was used two or three times *per diem*, and continued for some days; and I applied daily a cotton-wool pessary saturated in carbolic acid, tannin, and glycerine, the strength being one acid to sixteen parts of water. This treatment appeared to be doing good in every way, the discharge being less, and much less offensive. The friends could hardly believe the disease was so terrible as I described, and consequently Dr. Meadows was requested to meet me in consultation, which he did September 18th, confirming the diagnosis, and the same treatment was recommended to be continued. The pain materially subsided, and a decided improvement appeared to be going on until September 27th, when there was hiccough and sickness; prussic acid and salines relieved this, with a blister to epigastric region. On October 2d she was seized with rigors, the extremities being very cold; and on October 3d I found her partially unconscious, the face œdematous, and the legs much swollen; no water passed. October 4th, no better; very delirious during night; no water—bladder empty on catheter being passed. October 5th, hæmorrhage returned, anasarca considerable; insensibility at times, but could be aroused. At 10 P.M. I drew off about two ounces of bloody urine.

"These symptoms increased in severity, when Dr. Meadows again saw the patient with me on October 8th, and he considered her decidedly worse; and on the 10th a little more urine was passed, and on the 11th she expired, coma being present; but she could hardly be said to be totally unconscious until a few hours before her death."

[We need scarcely point out the serious importance of the above cases. In proportion as carbolic acid becomes, and with justice, a more and more popular agent, it will behove us to inquire very closely what are the dangers attending its use, and how they may be avoided. It has long been known that the acid is eliminated by the kidneys even when externally applied; it would now appear that this process may sometimes involve such serious results as acute and fatal nephritis and uræmia.—ED. PRACTITIONER.]

TREATMENT OF PUERPERAL CONVULSIONS.—Mr. H. Allbutt, of Leeds, writes to us:—"The following case may present interest to the readers of the *Practitioner* as to the most successful treatment of this formidable affection. Mrs. H——, a young woman, aged 23, of good strong constitution, but rather plethoric, consulted me first on September 21st. She was suffering from epileptic fits, which increased in violence and frequency day by day. I treated her to 15-grain doses of the bromide of potassium with marked effect till October 1st. On that day I attended her in her first labour. I administered chloroform to her by inhalation at the commencement of each pain, on account of the rigidity and slow dilatation of the os uteri and perinæum. This, I believe, prevented her having puerperal convulsions at or immediately after labour. About three days after convulsions came on in a most fearful manner, and increased to such an extent that the patient seemed to be at one time upon the point of death. Mr. Seaton, of Leeds, saw the case with me, and we agreed to apply eight leeches to the forehead. Turpentine injections were ordered; the patient was put again upon a course of bromide of potassium, and a light but nutritious diet ordered without stimulants. By the above treatment she was brought round, and is now progressing favourably towards recovery. I believe that in such affections we have three great remedies, viz. bleeding, turpentine, and bromide of potassium, and upon these I shall be disposed to rest in all future cases for a favourable result. In case, however, anæmia be present, bleeding should be cautiously performed (if at all). Here turpentine, both by mouth and rectum, with bromide of potassium, and supporting diet may be employed. By these means we may hope to save many valuable lives, and lessen the present mortality from such cases."

ARSENIC IN CHOLERA.—" E. J. W." writes the following:—" In Dr. Ringer's Handbook of Therapeutics, p. 191, is the following passage: 'The testimony in favour of the employment of this remedy (arsenic) in cholera is very great. It is especially recommended in the later stages of the disease, when there is much collapse.' Will some reader of the *Practitioner* favour me with pointing out in your pages the work or works containing this 'testimony?'"

BROMIDE OF POTASSIUM IN TETANUS.—Dr. G. F. Elliott, of Hull, writes as follows:—"In the June number of the *Practitioner* reference is made to a case of tetanus treated by bromide of potassium. A few weeks ago I was called into the country to see a case of tetanus, the result of a scalp wound in a child nearly four years of age; there was marked opisthotonos, and the jaws were so tightly closed that very little nutriment could be taken. I was not likely to see the child again, and the ordinary medical attendant also lived a little way off. Under these circumstances, and bearing the case you refer to in mind, I thought the bromide would be a safer remedy to leave in the hands of the attendants than any of the drugs ordinarily used in the treatment of tetanus ; I therefore advised it to be given in 10-grain doses every hour. The gentleman whose case it was kindly furnished me with notes, and from these I find that for two days there was marked improvement, an absence of all spasm until the evening of the second day of taking the bromide: during this time the pulse became slower and firmer, and fluid food was freely taken. The spasms returned, however, on the evening of the second day of taking the medicine, and alternated with epileptiform attacks until his death, which took place on the fourth day after I saw him. Although the improvement in this case was only temporary, yet it was so marked, I cannot help thinking that, taken in connexion with the case reported from Carlisle, it seems to warrant further trial of this drug in tetanus. In case you may think the thing worthy of note, I have much pleasure in mentioning it."

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[1] Any of the foreign works may be procured by application to Williams & Norgate, of Henrietta Street, Covent Garden, W.C.; or Messrs. Dulau, of Soho Square, W.C.

THE PRACTITIONER.

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Original Communications.

SOME OBSERVATIONS RESPECTING THE INFLUENCE OF CHLOROFORM, ETC. IN PROMOTING CUTANEOUS ABSORPTION.

BY AUGUSTUS WALLER, M.D., F.R.S., OF GENEVA.

THE practitioner has so frequently occasion to have recourse to the skin, as an absorbing surface for various medicinal agents applied to it, that it becomes a matter of importance to establish on strict physiological grounds the causes which mostly influence the function of cutaneous absorption. To ascertain the introduction of a substance into the organism, the means usually employed are either chemical or physiological.

My present observations on absorption have been founded on physiological tests, principally obtained by observing the effect on the pupils from the absorption of certain medicines, such as atropine, aconite, &c.

Although the moist skin of the frog presents such extreme dissimilarity from that of most of the mammalia, yet on this animal we are able to reproduce one of the most striking effects observed in the latter stages of Asiatic cholera, *i.e.* the non-absorption of medicines introduced into the alimentary canal. By immersing the hinder extremities of this animal into a solution of cyanide of potassium, we can detect the presence of this salt after a few minutes on the tongue or any part of the mucous membrane of the mouth. But if the animal has been previously etherised, so as to considerably diminish the heart's action, no absorption takes place, even after a prolonged immersion. Similar results are produced by woorara, or agents that reduce the heart's action. This is owing not so much to the absence of local absorption in the skin, as to the deficiency in the vascular action; for if we remove the skin of a part that has been immersed, we can detect on its inner surface the presence of the cyanide of potassium, which, however, from the deficient means of transport in the vessels around, has remained localised and inert in the system.

A like deficiency in the means of vascular conveyance is probably the cause of the inertness of medicinal agents in the stage of collapse of cholera, although the demonstration of this fact is deficient, as long as it is not proved by other means that the medicines have not entered into the circulation, as their want of action might possibly be owing to other causes.

The human skin, in common with that of most of the mammalia, presents great obstacles to the absorption of most of the substances placed in contact with it. The dry condensed varnish presented by the cuticle is the principal impediment. There is also another protective agency in the secretion of the sebaceous follicles to which M. Hebert first drew attention, which forms an oily surface, preventing the contact of aqueous liquids with the cuticle. These two causes are so efficient in preventing absorption, that many physiologists still deny the power of the skin to introduce into the system any medicinal agents dissolved in water.

Mons. Parisot has made numerous observations on children and adults subjected to a prolonged immersion, varying from one to two hours, in baths containing strong proportions of cyanide or iodide of potassium, or an infusion of belladonna leaves. He states that in all these cases he was unable to detect the presence of the substance in solution, and that with belladonna there was in no instance any dilatation of the pupils.

It is very difficult to reconcile these negative results with those of Westrumb, Homolle, and others, who have detected in the saliva and urine the presence of the above-mentioned salts after a prolonged immersion in a local bath containing them.

It is very obvious that, for the settlement of these important questions, we must appeal to the more delicate tests provided by the spectrometer, as in the observations of Dr. Bence Jones, who has shown what minute quantities of lithia may be detected in the various tissues of the body.

But if, instead of employing aqueous solutions, we place various alkaloids dissolved in chloroform in contact with the skin, we quickly obtain evident symptoms of the absorption of these agents, which may be carried to an extent sufficient to destroy life. When a mixture of equal parts of chloroform and tincture of aconite is maintained in contact with the human skin, it rapidly produces irritation and vascularisation, which, after augmenting during the first two or three minutes, subsides gradually, and the part becomes pale, and more or less insensible, with a local decrease of temperature. Still later the part becomes insensible to the prick of a needle, though it still retains an imperfect sensibility when pressed upon. In fact, the part is in a state of superficial paralysis, which does not extend to the deeper tissues. This state of anæsthesia will continue for several hours. The two principal agents producing it are chloroform and aconite. For if the former is used alone, a certain amount of insensibility may be obtained, but it is very imperfect and evanescent compared to that produced with the intervention of the tincture of aconite.

On the other hand, when the tincture of aconite is applied alone to the skin, it may be left undisturbed without producing either symptoms of irritation or absorption, such as are evidenced by hyperæsthesia in the first stage, or anæsthesia in the second stage of its action. In addition to the symptoms of anæsthesia, the mixture of aconite and chloroform is liable to produce vesication, and even a certain amount of ulceration of the cutis after having been maintained for a long time in contact with the skin. Besides these local symptoms of the absorption of aconite, there frequently exist others resulting from its general influence on the system, namely, slight nausea and a sense of depression.

On the lower animals the application of the same liquid is followed by similar local and general symptoms, which are more or less severe or fatal in proportion to the amount of surface of the skin exposed to the solution. For example, when a young guinea-pig has one of its feet dipped into the solution for about a quarter of an hour, the result is invariably fatal, as is shown by the following case:—

"After five minutes' immersion, the part exposed became reddened and warm: this was quickly succeeded by complete insensibility of the integument. The foot was dipped in the liquid for ten minutes longer, then washed and dried. Soon after the lips became pale, the general temperature decreased, slight convulsions succeeded, accompanied by dyspnœa, frothing at the mouth, and efforts at vomiting. About three hours from the commencement of the experiment, all the above symptoms were much aggravated, and death speedily followed."

With a full-grown animal the results are the same, but it requires a much longer immersion to produce them. Similar results are obtained on the dog by the application of chloroform and aconite to the ear. Local insensibility is produced, followed by symptoms of poisoning, resembling those above-mentioned on the guinea-pig, which likewise terminate in the death of the animal.

As regards alcoholic solutions of aconite, the same negative evidences of their action are observed as on the human skin. But in order to study with greater precision the phenomena of absorption, either on the skin, or of any other part of the body, we must employ a means more precise and more capable of measurement than the above-mentioned symptoms. For this purpose I have been led to adopt in my investigations the albino rat. In this animal the pupils during daylight do not exceed one millimetre in diameter. They are less variable than those of most other animals, and, by the absence of black pigment in the iris and choroid, they are more easily measured. The return of the iris to its normal dimensions after its dilatation during the experiment allows us to follow the gradual elimination of the atropine from the system.[1]

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[1] Besides this advantage, we may observe, by means of the microscope, the circulation of the blood in the vessels of the iris, and a part of the choroid, as in other transparent membranes. For this purpose the animal must be swathed up in a bandage, and tied on a strip of cork, as in my experiment on the frog's tongue. By means of a few turns of thread passed alternately in front and

The *modus operandi* consists in maintaining one of the feet of the animal in the required solution, while the pupil is examined from time to time to recognise the moment it begins to dilate. We at once observe by this means the extreme influence which the vehicle or dissolving body exercises on the activity of absorption; for according as a chloroformic, alcoholic, or aqueous solution is employed, we may obtain dilatation of the pupil in two or three minutes, or perceive no effect after a prolonged immersion.

With a solution of atropine in chloroform of one per cent. of the alkaloid we generally obtain dilatation of the pupil in from two to five minutes. When once the dilatation has commenced, it rapidly progresses until it reaches its maximum. If after immersing the foot for a few seconds it is withdrawn, dilatation of the pupils is produced, although more slowly and less powerfully. The same is still the result if, after withdrawing the foot from the solution, it is carefully wiped and dried, showing how rapidly the atropine and chloroform penetrate into the substance of the skin.

With an alcoholic solution of the same strength as the above little or no effect is obtained after half an hour or an hour.

With a solution of atropine in water containing a few drops of acetic acid absorption is also very slow, generally producing no dilatation after thirty minutes. When withdrawn from the solution and exposed to the air, a slight dilatation of the pupil is obtained after a short time.

Extract of belladonna applied over the leg produced no dilatation at the end of an hour.

With a solution of strychnine and chloroform, dilatation of the pupils was observed at the end of three minutes. After five minutes slight convulsions about the larynx were observed, extending afterwards to the extremities, which were soon followed by tetanic convulsions, and finally by death.

An alcoholic solution of strychnia produced no symptoms whatever of the presence of strychnia after thirty-five minutes.

When the atropine is dissolved in a liquid consisting of equal

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behind the eyeball, it is maintained sufficiently protruded and immovable for microscopic inspection. Under a power of two or three hundred diameters, the vessels in the iris, the choroid, and ciliary processes can be examined.

parts of chloroform and alcohol, a considerable dilatation is observed after three minutes.

With one part of chloroform and four parts of alcohol, atropine produced dilatation at the end of nine minutes. With atropine dissolved in essence of turpentine, little or no dilatation was produced while the extremity remained in the liquid, but if after ten minutes' immersion it is removed, dilatation of the pupils commences at once and soon attains its maximun.

It is almost superfluous to remark that with chloroform alone dilatation is not produced.

On repeating my experiments with chloroform and atropine, Mons. Parisot obtained upon himself the same results as those I had already observed upon the lower animals. He states that, on applying over the forehead alcoholic and chloroformic solutions of atropine, a compress of cotton imbibed with the chloroformic solution produced heat, redness, and commencing dilatation of the pupils, nearly equal on both sides.[1] With the alcoholic solution, no effect was obtained after two minutes' application, but after thirty minutes there was commencement of dilatation.

As far as regards myself, I have not been so successful as Mons. Parisot; and when we consider the small amount of surface exposed to the action of the topic, probably not $\frac{1}{500}$th part of the surface of the body, it would be remarkable if we could obtain the same results as those which I have described on animals, where the surface exposed is relatively so much greater, and equal to at least the tenth part of the surface of the animal. I can therefore only attribute the results of Mons. Parisot to some idiosyncrasy of an exceptional nature.[2]

The foot of an albino rat was immersed in a solution of equal parts of tincture of opium and chloroform. After twelve minutes' immersion the limb was nearly insensible. After five minutes' longer immersion there were symptoms of somnolency, which continued to increase. The eyes were dull. The animal started at any sudden blow on the table, and moved a few steps; when near the edge fell over. Pupils were contracted. Two hours afterwards the animal had nearly recovered.

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[1] As the dilatation of the pupils in this case was unequal, there was probably some direct local action of the atropine on one of the eyes. The limit of the direct action of atropine on the iris is, however, very circumscribed on the albino rat. This may be seen by locally introducing atropine into or below the skin by means of a thread that has been steeped in a solution of atropine, and afterwards dried. Introduced close around the orbit, the atropine acts only upon the corresponding iris; but when the thread is inserted a few lines from the orbit, its influence becomes general, as is proved by the equal dilatation of the pupils.

[2] Vide *Comptes rendus de l'Académie des Sciences.* 1863.

After fourteen minutes' immersion in a mixture of equal parts of alcohol and a chloroformic solution of morphia, the skin of the part immersed was insensible, as in the case above-mentioned. The pupils were generally much contracted, the eyes half-closed and very dull. At the end of half an hour the animal had nearly recovered.

A small quantity of acetate of morphia was introduced by means of a coarse thread soaked in a solution of morphia in the proportion of two grains of the alkaloid to one drachm of chloroform. After the thread had been dried, it was introduced beneath the skin to the extent of about the third of an inch. Twenty minutes afterwards the animal became drowsy and gradually was narcotised, presenting all the symptoms mentioned in the previous instance.

When in a state of narcotism from opiates the pupils in the albino rat are generally contracted, but in some cases they are much dilated, contracting considerably whenever the animal is aroused by some strong irritation. This discrepancy is probably owing to the peculiar irritability of the retina and intolerance of light in this animal, for in other animals narcosis by opiates produces contraction of the pupil as on man.

With regard to the influence of alcohol when mixed with chloroform, we find that, instead of retarding, it rather accelerates absorption. Thus, with atropine dissolved in equal parts of chloroform and alcohol, the dilatation of the pupil is manifestly more speedy than with chloroform alone, being generally two minutes in advance of the latter on full-grown animals. With a mixture of three parts of alcohol to one of chloroform, absorption appears to be as active as when the proportion of chloroform is much greater.

The addition of astringents to a solution of atropine and chloroform has no influence in retarding the absorption of the atropine.

Since the publication of my former researches on this subject, some observers have endeavoured to explain the accelerating influence of chloroform on cutaneous absorption by attributing it to the presence of the sebaceous matter. According to this theory, chloroform acted by dissolving the sebaceous matter, and in consequence quickly penetrated through the skin, carrying with it the substance in solution. It is impossible to accept this explanation; as alcohol likewise dissolves the sebaceous matter, yet alcoholic solutions remain unabsorbed after a prolonged contact with the skin. It was therefore requisite to examine the separate influence of chloroform and alcohol upon the skin after death in order to clear up this point.

For this purpose I employed a barometer tube of about one foot and a half in length, with one extremity blown out into a cup-shape form of about an inch and a half in diameter. This end was closed by a piece of the skin of the albino rat, with its outer surface placed uppermost, so as to be in contact with the liquid in the tube. One of these endosmometers was filled with chloroform and another with alcohol, plunged into water, and maintained in as similar conditions as possible with regard to external and internal hydrostatic pressure. The following results were obtained: the column of chloroform originally a foot in height in the tube had fallen—

9	millimetres	after	24	hours'	immersion.
16	,,	,,	48	,,	,,
27·6	,,	,,	3	days'	,,
39	,,	,,	4	,,	,,
43	,,	,,	8	,,	,,

This progressive *fall* of the column of chloroform has always been observed in my experiments.

It is scarcely necessary to say that precautions were taken to prevent evaporation of the upper surface of the column of chloroform.

In the endosmometer containing alcohol I observed, on the contrary, the constant *rise* of the column of alcohol in consequence of the endosmosis of the water.

After	24	hours'	immersion	the column	rose	20	millimetres.
,,	2	days'	,,	,,	,,	30	,,
,,	4	,,	,,	,,	,,	24	,,
	Total					74	millimetres.

The influence of chloroform in determining the direction of the current outwards was more evident when the endosmometer that had recently contained chloroform was filled with alcohol. In this instance the column of alcohol continued to fall for several days instead of rising—an effect manifestly owing to the saturation of the skin by the chloroform with which it had previously been in contact.

A limb was removed from an albino rat immediately after death, and a ligature carefully placed over the exposed surface, so as to prevent the entrance of the liquid. It was then placed in liquid chloroform. When weighed from time to time, after being well dried between folds of blotting-paper, the following were the results obtained:—

	Grains.
Weight of part before immersion	57·6
,, ,, after 5 minutes' immersion	58·
,, ,, ,, 5 hours' ,,	60·
,, ,, ,, 14 ,, ,,	64·3
,, ,, ,, 24 ,, ,,	66·
,, ,, ,, 2 days' ,,	70·8
,, ,, ,, 3 ,, ,,	73·6
,, ,, ,, 5 ,, ,,	75·3
,, ,, ,, 6 ,, ,,	76·3
,, ,, ,, 11 ,, ,,	77·4
,, ,, ,, 15 ,, ,,	78·2

In alcohol the same part of the body gave as follows:—

	Grains.
Weight of limb before immersion . . .	63·2
,, ,, after 6 hours' immersion .	62·5
,, ,, ,, 24 ,, ,,	62·5
,, ,, ,, 2 days ,,	60·
,, ,, ,, 3 ,, ,,	59·5
,, ,, ,, 8 ,, ,,	57·1
,, ,, ,, 18 ,, ,,	58·8

Placed in a solution of equal parts of chloroform and alcohol, the results were as under:—

	Grains.
Initial weight	52·8
After 2 hours' immersion	59·
5 ,, ,, ...	60·3
11 ,, ,, ...	61·
1 day's ,, ...	61·5
2 ,, ,, ...	62·1
3 ,, ,, ...	61·2
4 ,, ,, ...	61·3
8 ,, ,, ...	61·3
14 ,, ,, ...	60·8

In this experiment we perceive that, after considerably augmenting in weight, it is diminished slightly after the second day's immersion. Although in experiments of this nature we are exposed to a certain amount of inaccuracy in consequence of the impossibility of drying the surface equally before each time of taking the weight, it is probable that this diminution in weight in the foregoing experiment is principally owing to the presence of the alcohol, which has drawn by endosmosis a certain amount of moisture contained in the tissues.

If, instead of placing the part in liquid chloroform, it is suspended in an atmosphere constantly saturated with chloroformic vapours, the following are the results obtained :—

	Grains.
Initial weight	52
After 38 hours	57·2
2 days	58·4
3 ,,	60·8
4 ,,	61·3
8 ,,	64·3
13 ,,	64·2

In an atmosphere saturated with alcohol, I found as follows :—

	Grains.
Initial weight	47·5
After 1 day	48·8
2 ,,	49
4 ,,	52
5 ,,	51
6 ,,	51·5
8 ,,	50
17 ,,	48
28 ,,	48·6

In order to ascertain the capacity of different tissues to imbibe chloroform, the following parts were placed in liquid chloroform immediately after the death of the animal.

	Skin.[1]	Hair.	Adipose Tissue.	Lung.	Spleen.	Testicle.	Thryoid Gland.	Heart.	Tongue.	Muscle of Thigh.	Liver.
Weight before immersion . . .	16·7	6·6	4·9	12·8	11·2	14·8	11·3	14·3	8·6	19·2	12·2
Immersion for 3 hours	20·2	10	9 6	13·6	11 8	14·6	11·8	14·2	7 6	19 7	10·5

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[1] The skin had been deprived of the hair, muscular and adipose tissues.

The principal conclusions from the foregoing experiments are:

1. Chloroformic solutions applied to the skin of man and animals are quickly absorbed, and produce local and general results according to the substances employed.

2. Alcoholic and aqueous solutions are either not at all or very slowly absorbed.

3. Chloroform easily traverses the dead skin by diffusion.

4. Alcohol does not traverse the skin, but produces an endosmotic current with water.

5. Skin exposed to chloroform in a state of liquid or vapour absorbs a considerable quantity of it.

6. On traversing the septal skin of the endosmometer, chloroform carries with it a certain amount of any alkaloid dissolved in it.

7. These observations sufficiently explain the rapidity of cutaneous absorption during life, without our having recourse to any problematic influence of sebaceous matter on the surface of the skin.

ON THE USE OF IODIC ACID AND IODATE OF IRON.

BY JOHN W. OGLE, M.D.

Physician to St. George's Hospital.

THE reference made to the use by Dr. Cameron of ferric iodate as a therapeutical agent in the *Practitioner* for June (see p. 366) induces me to make mention of a trial which I gave, as far back as the year 1855, to iodic acid and the iodate of iron. Preparations of both were made for me by Mr. Fisher, of the firm of Fisher and Haselden, who was at that time a student in Dr. Noad's laboratory at St. George's Hospital. I was led to use the iodic acid by a desire to find a remedy similar in action to iodine, but having the advantage of being colourless when applied externally, and of not being deliquescent when used in the form of pill, &c. When considering the question of the utility of iodic acid, I naturally consulted Pereira's work, and found that he made reference to its use by Mr. Monks, then House-surgeon to the Poor-Law Schools at Norwood, who was stated to have administered it as a tonic, stimulant, and alterative (whatever that is) in hoarseness consequent on catarrh, in strumous cases, incipient phthisis, chronic inflammation, syphilis, &c., and who had written upon its internal use in the *Medical Times* for October 3, 1846. On referring to that journal, I found the history given of a case of aphonia of five months' duration successfully treated by inhalations of iodine, quinine and iodic acid being given contemporaneously. I communicated also at the time with Mr. Monks, who wrote in reply (dating from the Commercial Road, Stepney, and saying that he had left Norwood), referring to his trials of the iodic acid, as follows:— "About 1846 I was making some trials of the acids in the exanthematous eruptive fevers; and comparing the results with an alkaline treatment in similar cases during the same epidemic period, I came to the conclusion that the acids had a decidedly favourable influence over these diseases (the alkalies an unfavourable effect). From this I was led on to try the iodic acid in some cases of debility and struma, and, I believe, with some advantages over the iodides. About this time circumstances arose which put off further investigation." In his observations upon the case already quoted from the *Medical Times,* Mr. Monks observed that "he frequently prescribed the disulphate of quinine, in combination with iodic acid, as an elegant tonic."

Referring to my notes of the time, I find that I frequently (at the St. George's and St. James's Dispensary) gave the iodic acid in doses varying from 1½ grains upwards to 5 grains, and used it externally as a substitute for iodine. It was perfectly soluble in distilled water (22 or 24 grains to the ounce), but not perfectly so in proof spirit. It was supposed by Messrs. Fisher and Haselden that one grain was equal in effect to half a grain of iodine, and I generally applied it to the skin after friction, along with some stimulating liniment to ensure greater efficacy.

Considering that it was almost impossible to give the iodide of iron except in syrup, in addition to the iodic acid I had made for me a preparation of iodate of iron ($Fe_2\ O_3\ 3IO_5$), a much more stable compound than the iodide; and I find from my notes that I gave this frequently in solution with water, also in pill, and in powder with some suitable vehicle, in cases of enlarged cervical and other glands, of indurated tonsils, of ophthalmia tarsi, &c., with decidedly beneficial effect. It was given in doses up to four grains each. I may here state, having respect to Mr. Monks' combination of iodine with quinine, that I am now using a syrup of bromide of iron, which Messrs. Bullock and Reynolds have prepared.

ON THE HYPODERMIC USE OF MORPHIA IN DISEASES OF THE HEART AND GREAT VESSELS.

BY T. CLIFFORD ALLBUTT, M.A., M.D. CANTAB., F.L.S.

Physician to the Leeds Infirmary, &c.

THE present paper is written in the hope that the mode of treatment I am about to propose is one of very high utility, and likely to bring comfort to many sufferers. So strongly, indeed, am I convinced of its importance, that I feel I ought not to delay the publication of my observations, although I now publish them under the pressure of many engagements. Any one of my readers, physician or not, who has watched at the bedsides of those who have died of heart disease or thoracic aneurisms will never lose the painful memory of their sufferings, or forget that of all modes of death these are, perhaps, the most terrible. Is it not rather a common than an uncommon fate to see men and women, otherwise healthy and with promise of life, placed at a fearful disadvantage by some injury in the heart or aorta, and who feel, with the undulled sensibilities of comparative health, how a mechanical fault at the very centre of the loom of life, and against which no bodily strength nor any device of medicine can prevail, is dragging them surely downwards, week by week and month by month? I think there is scarcely any extreme illness so distressing as the latter stages of these maladies, when a patient, often with a clear head and a good stomach, can only cling convulsively to a life he would willingly lose, and with gasping breath, a striving heart, and swollen limbs, hardly finds a moment's rest from torment. The inability of most of these patients to lie down, the banishment from their beds, and the dread of night, which comes to other men as a friend, are perhaps the chief of their trials; and, as it would almost seem, by a wanton cruelty of nature we are forbidden to give to them that great consoler of the sufferings of others—opium. Will it not be a boon to them if there be yet some means by which the peace of an opiate can be given to relieve their anxious watchings? I was myself led by such experience of another's suffering to seek earnestly for remedial means in heart and aortic diseases; and if I have been in any way successful, I am more than rewarded.

My farther experience of the *Prunus Virginiana*, and the gratifying testimony of others—of many strangers, moreover, who came to tell me of it at the British Medical Association—its increasing sale, too, at home and abroad, all convince me still of its utility. But in the latter stages of heart disease, when the wild cherry is either impotent or unequal to much help, I believe we have in the morphia syringe an invaluable ally.

From small and timid beginnings I have gone forward with this marvellous remedy, until I find myself now justified in using it fearlessly in any form and in any stage of heart and aortic disease. No matter how swollen the limbs, no matter how agitated the pulse, no matter how blue and how turgid the face and lips, I now never hesitate to inject morphia, and scarcely ever fail, even up to the time of the dying agonies, to give relief decided enough to earn the warm gratitude of the patient. At such times one feels the blessing of being a physician.

I believe I am right in supposing that the injection is not known in cases of this kind; if I am wrong, I must crave the reader's pardon. In my own consultations, however, I not only find it unknown to, but naturally dreaded by, my professional brethren. I never see it mentioned in the medical journals, and I have spoken of it to many leading physicians in London and elsewhere, who have confessed their own ignorance of the remedy, and have urged me to make it known. My friend and colleague Mr. Teale, indeed, is quite familiar with this use of morphia, and I have the great advantage of his warm testimony in its favour—a testimony wholly unbiassed by me, for he had hit upon the remedy for heart disease almost or quite as soon as I began it, and he has never gone back from it.[1] I have found, also, that in every case in which another medical man has used the injection at my instance, so far from being alarmed by it, or dissatisfied, he has thenceforth regarded it as his best friend.

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[1] Mr. Teale tells me that he accidentally discovered the remedy when injecting for a painful ulcer a patient who also had heart disease.

I use the hydrochlorate of morphia in doses varying from one-tenth to one-third of a grain; I seldom use half a grain, except in such a case as intense pain from angina or intrathoracic tumour. I always begin with one-eighth or one-sixth; and in ordinary cases I find a quarter of a grain the proper dose—in a case, say, of mitral regurgitation with pulmonary congestion in an otherwise healthy adult. The dose is best given in an evening, and should always be followed by perfect quiet in the room. This last is an important element in all cases of injection of morphia. The urine should be examined, and the drug withheld or given with caution if albumen be found. I think, however, there need be no great fear of it during albuminuria only secondary to the heart disease, unless there be reason to suppose that excessive renal congestion be present, and head symptoms at hand.

Once or twice I have injected morphia in small doses to mitigate suffering in patients with heart disease associated with granular kidney, and in whom no head symptoms had appeared. I have done it, however, in fear and trembling, and I think the risk is better avoided.

It is surprising how little the morphia has affected the head in the multitudes of cases in which I have tried it. The condition of the brain in heart disease is often, no doubt, anæmic, and some of the restlessness of the patient, and some of the heart disorder, may at times be due to cerebral anæmia. In such cases one might expect the morphia to calm by bringing about the sleep, or rather the stupor, of cerebral congestion;—but this explanation is insufficient. On the contrary, in aortic disease with marked symptoms of encephalic anæmia I have seen less good result from the hypodermic use of morphia than in heart cases of other kinds. But in cases of mitral regurgitation, when the head is full of venous blood, and distress and stupor seem striving together, then I have found great benefit from the injection, for it stills the distress in the chest, and by staying the tumult of the heart it seems to allow the sinuses to empty themselves, and to allow of the establishment of a true soporific anæmia.

I think, moreover, that the unwonted blessing of peace brought by the drug so tranquillizes the system, that even those persons find solace and rest from its use, when labouring under heart disease, in whom, under other circumstances, morphia would rather annoy the medulla than tranquillize the cerebrum. I scarcely ever remember that morphia caused disturbance of the stomach or other inconvenience in the cases I am describing. As in cases of severe pain, so it seems that in cardiac disturbance the intolerable distress "carries off" the troublesome qualities of the drug. Its effects, again, are not merely comforting, but are curative so far as such cases are to be cured. An injection of morphia three or four times a week, by tranquillizing the heart and allowing the circulation to recover its freedom, sets free also the organs which are oppressed, and the system can once more find something like its balance.[1] Thus relieved, the patient may with incessant care enjoy some respite from his malady, and the occasional use of morphia may put off the day of its return. All this bears very closely on the difficult question, How is it that a man having a given lesion of the heart goes on sometimes for a year or two without an "attack" of general suffering, and after recovering from this may again go on for a longer or shorter while before the "attack" is repeated, the heart lesion remaining always the same? There seems to be a gradual accumulation of deficient work, which does not throw the patient over until it reaches a certain amount. Gradually and indirectly the morphia injection does much to restore balance of function; directly and immediately it seems to affect the chest almost alone. The face generally becomes less turgid and its expression calmer. The heart, which for days had been thumping out of all rhythm, or striving against an unequal weight of blood, becomes tranquil and rhythmical; and this, whether it be a direct result of the morphia or not, is the chief one, and that upon which the rest seems to hang. More haste, worse speed, is as true of heart work as of any other, and it seems clear that the hurried labour of the overtasked heart is not compensatory, but is mere blindness and bewilderment. After injection the insufferable precordial distress ceases, and the heart gaining time and rhythm gains power. The effect upon the pulmonary circulation is very striking, the congestion and secretion of the lungs being lessened, to the unspeakable solace of the patient.[1] The quick, shallow, anxious "cardiac dyspnœa" gives way to a deeper, slower, and easier movement; the cough falls, not from want of sensibility, but from relief of oppression; the overweight of blood oozes slowly onwards, and the patient, who has been tossing in misery, feels the first tranquil sleep he has enjoyed for weeks. On awaking he is conscious of an ease he has not felt for long, and the good effects are often as well marked, and sometimes better marked, the second night than the first, so that in ordinary cases an injection every alternate night is sufficient. The injection has little or no direct effect upon the anasarca or the urinary secretion, but only gives occasion for their relief by other means. The venæ cavæ are no doubt unloaded, but the state of the kidneys and legs is too confirmed for immediate change.

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[1] I should perhaps make a point of saying that in using the morphia I do not wish to overlook other remedies which still have their place.

As regards the class of cases in which the morphia is useful: it gives the most striking relief in angina with diseased coronary arteries, &c., in neuralgic distress from intrathoracic tumour, and in mitral regurgitation. It is very valuable also in small doses in so-called "irritable heart," whether this be due to weakness of the organ or instability of its nerves. It is less useful in disease of the aortic valves, and I think it is less valuable in mitral obstruction than in mitral regurgitation. In aortic disease however, where the heart is big and pumping, it gives much ease.

I need not detail any cases in which I have used the morphia, as they would not make my statements any the clearer; their farther confirmation must come from the profession; and I now leave the matter in the hands of my brethren, feeling assured that before long the injection of morphia will be a common remedy in cases of disease of the heart.

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[1] It is the administration of "an opiate" during the clogged state of the lungs which will excite the most serious doubt. We cannot, however, reason in the least from morphia by the mouth to morphia by the skin; the remedies are quite distinct in their results. I have never dared to inject morphia in bronchitis, but shall not wonder if it is done before long.

THE ACTION OF SOME ALKALOIDS AND OF BROMIDE OF POTASSIUM ON THE HEART AND BLOOD-VESSELS OF THE FROG.

BY F. B. NUNNELEY, M.D.

A SHORT account is contained in the following paper of some experiments on strychnia, veratria, morphia, nicotine, conia, and bromide of potassium, made in a similar manner to others on atropine, digitaline, and aconitine, the results of which appeared in the *Proceedings of the Royal Society* for July 1869.

They were performed on frogs with the view of ascertaining the action of these substances on the heart and blood-vessels, and as preliminary to further investigations on warm-blooded animals.

In conducting them, the general action of a fatal dose, and the condition of the heart when death took place, were first observed; next, the heart was exposed *in situ*, and the changes in its mode of action caused by the poison were noted; in other frogs the heart was removed from the body and placed, whilst still beating, in solutions of the substances, and their effect on it observed. Lastly, the influence produced on the circulation in the web, both from the local application of the poison, and also from its injection under the skin, so as to affect the animal generally, were examined.

The study of the latter point requires some attention, as spontaneous contractions occur in the arteries when the frog is perfectly quiet, and also when it kicks; and often when cold water or an irritant is put on the web, they are accompanied by slackening of the current, which resumes its previous rapidity when the vessel dilates. They frequently take place again and again, and persist for a long time, so that care must be taken not to regard them as necessarily the consequence of an application which may have been made to the web. These contractions do not always depend on muscular movement, for they occur when the frog is completely paralysed by curare.

Strychnia.—In from three-quarters of a minute to two or three minutes after a small dose, tetanic spasms commence, especially on tapping the board on which the frog rests ; the eye becomes insensitive in a few minutes more, but the spasms continue for many hours, or even for a day or two.

During the most violent convulsions the heart continues to beat regularly and with its ordinary strength, the rhythm of its movements being usually preserved throughout.

The frequency of the pulsations, in time, gradually diminishes, although they do not cease for many hours, and survive the occurrence of tetanus and the contractility of the lymphatic hearts ; finally, the ventricle is left large, relaxed, and containing some blood, whilst the auricles are moderately full. Applied in dilute solution to the web, strychnia causes no change in the calibre of the small arteries ; in a short time it is absorbed, and gives rise to tetanic spasms ; even during these the size of the vessels is unaltered, and the current is only now and then temporarily stopped when they are prolonged and severe.

Immersion of the heart in a solution of strychnia does not produce any change in its appearance, nor does it cease to beat in a shorter time than if it had been placed in water.

Veratria.—After the injection, under the skin, of about one-sixteenth of a grain or less, the frog falls crouched up, and remains in any position in which it is placed ; after a few minutes, reflex power and the sensitivity of the eye are lost ; on opening the body the heart is found beating with moderate strength, but presents some peculiarities in its appearance. Sometimes, during systole, the blood is chased in a vermicular manner—often from base to apex—to one part of the ventricle, causing it to become bright red and projecting. The rhythm of the heart's action is usually disturbed, the ventricle remaining a long time in diastole, during which two contractions of the auricle occur, the second being quickly followed by the ventricular systole. The range of the heart's action diminishes, its contractions become feebler and lessen in frequency, without primary acceleration, and at last cease, those of the ventricle before those of the auricles; the ventricle is then left rather relaxed, palish, and nearly empty, whilst the auricles are full of blood. The contractility of the blood heart lasts from about four to fourteen hours, surviving that of the lymphatic hearts by a considerable time.

No effect is produced on the size of the small arteries of the web, either by the local application of veratria, or by bringing the frog generally under its influence.

Immersion of the heart, removed from the body, in a solution of veratria, does not give rise to any peculiarity in its appearance.

Morphia.—Frogs are not affected by very small doses of morphia. A short time after the injection of about a quarter of a grain under the skin the animal becomes quieter, and the respiratory movements weaker; in one or more hour's time tetanus commences, and may be nearly as marked as in the case of strychnia; at the end of from twenty-four to forty hours the frog dies.

The heart is not visibly affected, but continues to beat regularly and with moderate strength; its rate of pulsation, at first unaltered, gradually lessens, and after many hours the organ finally ceases to beat, having survived reflex power, the occurrence of tetanus, and the contractility of the lymphatic hearts. The ventricle is left large, relaxed, and containing a little blood.

When morphia, in solution, is applied to the frog's web, or when the animal is tetanized by it, the calibre of the arteries does not undergo any alteration.

A heart immersed in its solution is not visibly affected in its mode of contraction.

The pupil of the frog's eye is not contracted by morphia.

Nicotine.—One or two minutes after the injection of ♏$\frac{1}{30}$th under the skin, the frog falls into a state of rigid spasms; shortly afterwards the eye becomes insensitive, and twitches occur in the limbs, except in that into which the injection has been made, and in which reflex power is abolished, although it is not so in the animal generally for from one to two hours. Meantime the heart beats regularly, but with impaired force and diminished range of action.

The frequency of pulsation is little altered for some time; it then slowly lessens, the contractions become weaker and shallower, and in nineteen or more hours they cease, leaving the ventricle large, relaxed, and often containing much blood, whilst the auricles are distended with it.

Reflex acts, and the contractility of the lymphatic hearts, become extinct before the blood heart ceases to beat. Locally applied in aqueous solution, nicotine produces no change in the calibre of the small arteries, nor does it affect them when the animal is generally under its influence.

When the heart is removed and immersed in a solution of nicotine, the ventricle becomes angular in outline, sharp at the apex, and pale, and one or two partial constrictions are often seen around it. It ceases to beat in a varying length of time.

Conia acts on frogs with considerably less energy than nicotine, about ♏$\frac{1}{2}$ being required to kill the animal as promptly as happens with ♏$\frac{1}{40}$ of nicotine; with such a quantity rigid spasm does not occur, the frog becomes weaker and weaker, the limb into which the injection has been made is rapidly paralysed, and the eye becomes insensitive in about ten minutes. On exposing the heart it is found beating regularly, though the ventricle is sometimes mottled red and white in diastole; the frequency of pulsation gradually lessens, until, at the end of some hours, the ventricle is left motionless, relaxed, soft, and containing some blood; previous to this the lymphatic hearts have ceased to beat and reflex power has become extinct.

Neither the local application of solution of conia, nor its injection under the skin, produces any effect on the calibre of the small arteries of the web.

Immersed in an aqueous solution of conia, the contour of the ventricle remains smooth and rounded.

Bromide of Potassium.—A dose of from one to four grains, injected under the skin, throws the frog at once into a state of rigid spasm, in which the arms are put above the head, and the legs are drawn up; in about a minute this state ceases, and the frog crawls slowly about; in two or three minutes more the limbs are paralysed, and soon after the eye becomes insensitive, reflex power is lost, and the frog becomes quite flaccid. On exposing the heart it is frequently found motionless, and contractions cannot be excited by irritating it; the ventricle is large and relaxed, and it and the auricles are distended with blood. This rapid abolition of the heart's functions is remarkable, and shows the bromide to be, in frogs at least, a powerful cardiac poison; its effects are as striking as those of digitaline, although in a different direction. With smaller doses—from the influence of which the frog often recovers—the heart's action becomes weaker, and the frequency of pulsation is quickly diminished, but the contractions continue for many hours. At first, at the end of systole, the blood is driven to one part of the ventricle, which becomes, with each contraction, a projecting red spot. No effect is produced on the arteries of the web, either by the local application of the bromide, or by its injection under the skin.

When the heart is immersed in a solution, the ventricle appears shrunken, and soon ceases to beat.

Two explanatory notes seem to be required. Firstly, no mention has been made of the action of these substances on the veins and capillaries. In the natural state the changes in their size are generally dependent on alternations in the arterial circulation, and in these experiments they were not independently affected. Secondly, although injection under the skin does not alter the size of the arteries, it notably affects the circulation in them. When the dose of any of these poisons is sufficiently large, the current of blood is seen to slacken, retrograde, and finally stop, leaving the artery nearly or quite empty whilst the heart still beats, but weakly, showing that although the heart continues to contract, its functions as the prime mover of the circulation are abolished—that although it acts as a *muscle* for a considerable period, it fails as a *heart* comparatively soon. Of the six substances examined, nicotine acted most powerfully in this way.

ON THE VALUE OF CARBOLIC ACID IN SKIN DISEASES.

BY EDGAR A. BROWNE,

Surgeon to the Liverpool Dispensary for Skin Diseases.

THERE is a natural tendency to exalt unduly any new remedy, especially if it be obviously powerful for good or ill, and the indications for its use appear to coincide with a preconceived theory, and to promise, *à priori*, some new road to success. The wish is father to the cure; and a result which, if attained by routine means, would seem no better than might be expected, becomes in the highest degree remarkable if compassed by a new method. An old remedy is said to do its work well; a new one (doing the same work not a whit better) is said to act like a charm.

To the psychologist this development of temporary enthusiasm may possibly be interesting. To the therapeutist, anxious to obtain data for the accurate estimate of a particular drug's power, it is thoroughly vexatious and confounding. It delays the progress of exact knowledge, and tends to foster a useless scepticism, not only of testimony, but of therapeutics.

In the case of carbolic acid the chorus has been unusually long and loud; but the praise, though profuse, has scarcely been discriminate. Theoretically it was fully justified, especially in skin diseases—with which alone I concern myself at present; the enormous reputation of the acid as an antiseptic (or destroyer of lowly organized forms of life) points to it as a parasiticide; its relations to tar suggest its employment in those chronic squamous and pruritic diseases in which tar and its allies have an indisputable value. When we add that by varying its strength we can produce all the effects intermediate between gentle stimulation and powerful cauterization, and that it mingles admirably with fat, oil, glycerine, or water, we should seem to have acquired a remedy of unrivalled range and utility.

And in the opinions of many practitioners these joyful anticipations appear to have been amply fulfilled. The good effects in favus and other tineæ have been especially chronicled as "magical;" and Rumour is scarcely full enough of tongues to say all the good things that should be said of carbolic acid.

But when we come to examine the grounds upon which these remarkable assertions are founded we find ourselves in the region of uncertainty. We do not find any true standard of success set up; consequently we cannot judge what has been effected. In order to do that with any exactitude we must have a criterion. It is not enough (to be esteemed successful) that a new drug should produce a *favourable* effect upon a disease or symptom—[that may and does satisfy the uneducated—hence the sale of nostrums, and the success of "pathies"]—we require a new remedy either to do work entirely new, or that it shall do old work better than it has hitherto been done. Short of this is not success.

In all the diseases of the skin for which carbolic acid has been recommended we have already remedies more or less efficacious and convenient. Does carbolic acid surpass these in efficacy or convenience?

To answer this question fairly we must make ourselves acquainted not only with the mode of working and value of carbolic acid, but of those drugs against which it is to be pitted. Poor soldiers well-officered may gain a victory over veterans foolishly commanded; but, managed with no greater skill than their opponents, they must lose the battle. Now it happens especially, but not exclusively, in skin diseases, that practitioners attain exceptionable skill in the use of this or that remedy, and are therefore prone to rate it higher than it deserves. On the other hand, a drug like carbolic acid, which has acquired a "sensational" reputation, is often reported upon by practitioners who have had but slight experiences in the use of routine remedies. In either case there is risk of grave error, which in this inquiry I have endeavoured to avoid.

In the treatment of tineæ carbolic acid comes into competition (amongst others) with two well-tried and effective remedies, corrosive sublimate and sulphurous acid. In attempting the comparison—a task which has extended over two years—I have followed a uniform plan of removing all crusts, scales, or accidental deposits with a poultice or oil, washing the part affected with soft soap, and then applying the remedy for twenty-four hours continuously. In tinea circinata and tinea tonsurans very good results were attained, but nothing "magical," nothing beyond what may be usually seen in the routine treatment of these affections. It perhaps causes a little more irritation than an equally effectual strength of sulphurous acid. As regards convenience, carbolic acid stands at a disadvantage towards corrosive sublimate in the matter of smell, but requires less care in application than sulphurous acid—a point of greater importance in dispensary than in private practice. It may be added to the long list of drugs which can be used for the extirpation of these comparatively trivial diseases, but without attributing to it any sort of pre-eminence.

In favus[1] I have only had one opportunity of trying the acid. The case was recent, resulting from contagion. The patch was oval, about an inch and a half in its long diameter; cups thin but well-formed, perforated by hairs; sporules easily seen under the microscope. No hairs were pulled out, but the part affected, with an additional margin of healthy scalp, was kept close shaved, the crusts removed by soft soap, and a drachm of the crystallized acid in an ounce of glycerine thickened with spermaceti was kept closely applied under gutta-percha. Twice the application was suspended on account of irritation caused by the acid and soap; but the case was under treatment altogether eight weeks. At the end of this time hairs were growing nicely, and no sporules could be found. The mother was told to bring the child to me at once if a relapse occurred, but I have seen nothing of the case for ten months, and I hope a cure was effected. It can scarcely, however, be said that corrosive sublimate would not have acted equally well.

In tinea decalvans the acid seems to act injuriously on the young hairs, so I have ceased to use it.

In pityriasis versicolor the results have been decidedly unsatisfactory, but so uniform in a large number of cases as to leave but little doubt in my mind that carbolic acid is an inefficient remedy compared with others. That it should act worse in this than other tineæ can be explained by the fact, that when the disease (as in tinea tonsurans) is situate in a hair-follicle and around a hair the acid is able to make its way along the shrivelled hair-shaft. But in pityriasis versicolor the disease is situated in the rete mucosum and protected by the outer layer of epidermis. This is hardened by carbolic acid and converted into a covering, which to a great extent prevents further penetration. Even when the hardened layer of scales is removed by an alkali or soft soap the result is not so good as with sulphurous acid similarly aided. It must also be borne in mind that liquor potassæ, or the soap diligently applied, will sometimes effect a good cure in this disease, and too much credit must not be awarded to the supplementary applications.

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[1] Favus is so rare a disease that there is great difficulty in estimating the actual curative effect of any mode of treatment, and much uncertainty is imported into the inquiry by carelessness in diagnosis. During the past year I have had four cases submitted to me as favus—one was old-standing impetigo, one lepra (hardened and coloured yellow by some pomatum), and two chronic eczema. My own case is given for what it is worth.

In eczema I am accustomed to add half a drachm or a drachm to an ounce of the zinc ointment, and consider it useful in hardening the newly-formed epidermis. In the later stages of the disease it may be used instead of the tarry preparations with moderate success. The facility with which its strength can be graduated to suit the varying susceptibility of the skin in various cases renders it a convenient application in a disease which varies as much in severity as eczema. But there is nothing peculiar in its actions, nor can any result be attained which cannot be equally effected by the tarry or mercurial stimulants in common use.

In sweating feet it acts remarkably well, stimulating the flabby relaxed skin and hardening the unduly porous epidermis. I recommend it to be used as a lotion, weak at first, but the strength gradually increased till it stings uncomfortably. It may then be disused, and in cases of moderate severity does not require to be repeated for two or three months.

In psoriasis it cannot be compared with tar. Out of a number of cases treated at the dispensary showing no indication for internal treatment, but all kept equally under the influence of arsenic, none have pleased me. In order to produce any noticeable effect with the acid it seemed necessary to use it sufficiently strong to cause considerable pain, and then, acting as a mild caustic, it is comparable to the acid nitrate of mercury so commonly employed.

As an antipruritic, carbolic acid belongs to the same class as corrosive sublimate and borax, but certainly does not surpass them. It is, however, a convenient addition to an evaporating lotion, and can generally be relied upon to relieve itching not dependent upon urticaria or true prurigo. In the former it seems utterly valueless; in the latter it often gives relief for a time. Like all the preparations derived from tar, it is remarkably uncertain in its action, and sometimes it notably exacerbates the irritation it is intended to allay. It is therefore to be used with some little caution. The officinal glycerinum, with the addition of half its bulk of spirit, is the preparation which has proved most successful in my hands. Compared with Hebra's useful mixture of tar and cod-liver oil, it is a cleanly and pleasant application, and is at all events worthy of a trial in the first instance. It is not generally so effectual.

In scabies and pediculi it is a good remedy, but as we have several devoid, or nearly so, of unpleasant odour, it is not worth considering.

As a caustic I should wish to confirm all that has been said in its praise. It is easily graduated in strength, and does not spread. Almost anything can be done with it that can be done with other caustics, except, of course, where very great destruction of tissue is desired.

On the whole, carbolic acid may be considered a versatile jack-of-all-trades, doing many things fairly well, but in all (except as a caustic) inferior to some master remedy either in efficacy or convenience. It possesses some of the properties of nitric acid, corrosive sublimate, and tar, approaching in general qualities the two former more nearly than the latter. Its action in the tineæ and other diseases seems to be in no way specific, but to depend upon its power of coagulating albumen, stimulating the skin, and excluding the atmosphere. With trouble and care it may be made to do all that remedies possessing those qualities can be made to do—no more. It is in no sense of the words magical in its effects, nor can it be regarded as an important novelty in the therapeutics of the skin, as it can in some other departments of treatment.

ETHER AS A STIMULANT-SEDATIVE.

THE EXPERIENCE OF AN EMINENT JUDGE.

By the kindness of Sir James Alderson, President of the College of Physicians, we have been put in possession of the following facts. They were recently communicated to Sir James by Sir Frederick Pollock, late Chief Baron of the Exchequer, who has been good enough to desire us to publish them.

The long and arduous legal career of Sir Frederick Pollock is too well known to require more than a passing reference; it may be stated here, however, that he always combined with his proper legal studies and duties a large amount of literary, and especially of scientific, reading. A more active and continuous devotion of life to intellectual work has rarely been practised by any one. Favoured with an almost absolutely unbroken health, Sir F. Pollock has reached the great age of 86, yet still retains his mental energy and activity; while as regards physical status, with the exception of the inevitable decline of muscular energy, he at present scarcely betrays his age in any noticeable manner. About six years ago, however, he was led to adopt ether-inhalation by the occurrence of symptoms which, though not dangerous, were annoying, and had a chronic depressing tendency. Besides a certain amount of indefinable nervous malaise, he suffered specifically from gastric flatulence and painful spasm, occurring almost constantly during meals. His attention was drawn to the possibility of getting relief from these inconveniences by taking some stimulant-narcotic, and he remarks, in one of his notes, that many elderly persons, who have lived intellectually laborious lives, have taken to the use of tobacco, or of opium, with a view to assuaging sleeplessness, and other nervous troubles which are very common at that period of life. Both tobacco and opium, however, disagree with Sir F. Pollock, or at least fail to produce the required effect. He therefore made experiments with the best rectified ether, which he inhaled from an ordinary bottle applied to one nostril; and it soon became apparent that a few whiffs, taken in this manner, were sufficient at once to quiet spasm and pain, and to induce a general tranquillity of the nervous system. It is needless to say that only very small quantities of ether can enter the blood in such inhalations as are now described, since not only does much escape at once into the air, but of that which is actually breathed a large proportion is simply expired again without being absorbed; and the smallness of the dose physiologically appropriated is sufficiently proved by the fact that true anæsthetic phenomena are never produced. At most, when several strong whiffs have been taken continuously, especially if the temperature of the ether has been raised by holding the bottle a long time in the hand, a dizziness has been produced—just enough to amount to slight vertigo when the standing posture has been attempted; but on careful inquiry it does not appear that this degree of etherisation is necessary for the relief of the uncomfortable sensations on account of which the practice was originally adopted. So far from consciousness being disturbed or clouded by the use of the ordinary small doses of the vapour, it would seem that the intellect is both tranquillized and fortified by them. They fail to produce the least numbness of peripheral sensory nerves. Nor do they at all *compel* sleep; although, by removing nervous irritability, they evidently favour its occurrence when it would otherwise be difficult to procure.

The practice of ether inhalation, as above described, has been steadily continued by Sir F. Pollock up to the present time, and the general facts observable are the following:—Both his physical and mental health may be called magnificent, considering his advanced years. The pulse is regular and firm, of medium tension, and keeps very nearly to the standard of eighty; it does not appear to vary materially either during or after an inhalation. Not merely can gastric spasm and flatulence be relieved with the same instantaneous certainty as at first, but the tendency to such affections has evidently and notably diminished. Sleep is obtained, at intervals, to the amount of, perhaps, eleven hours out of the twenty-four, including a regular mid-day siesta. As is common in advanced age, not much solid food is taken; but a moderate amount of alcoholic liquids (brandy and sherry) are consumed, in small doses. The appetite for solids is visibly diminished when any considerable amount of ether has been inhaled shortly before a meal. There is not the smallest impairment of muscular co-ordination proper; and in regard to this it may be mentioned that the handwriting is singularly vigorous and perfect. So free are the muscles from tremor that till quite lately Sir Frederick could balance a full wine-glass on the backs of his closed fingers and lift it to his lips without spilling; and even now the hand can be held out for a long time without a visible shake. At present the inhalations are very frequently taken, and a variable quantity of ether, amounting sometimes to several ounces in a day, is used: but of course it is impossible to calculate how much of this enters the blood. We may conclude this detail of the facts observed by stating that a few extra whiffs, of exceptional vigour, produce slight flushing of the face, and a feeling of fulness in the nasal mucous membrane.

[Upon the facts of the above very interesting case we shall base a few remarks on the use of stimulants in the nervous malaise from which aged persons so frequently suffer. It is rather singular that more detailed and specific consideration has not been given, in medical treatises, to the management of the very troublesome neuroses of old age. Not to mention the severe and intractable neuralgias which occasionally make the last years of a long life miserable, there are minor nervous evils which more commonly beset the aged. The majority of very old people find it difficult or impossible to sleep continuously for any considerable length of time; and though, doubtless, this is of the less consequence because but little muscular exercise is taken, yet it is often distressing, and by its mental no less than its directly physical effects tends to unhinge the nervous system and to destroy the calm of life. Spasmodic affections of the stomach and intestines also frequently cause great misery to old persons, and inflict further mischief by rendering the problem of their nutrition more difficult. It seems to us that for these troubles, which are so often spoken of as inevitable, the aged have a right to ask relief; and what is more important, they are generally pretty sure to attempt to get it. By coarse-fibred or uneducated persons, more especially, the relief may be sought in alcohol; and under the idea that one cannot have too much of a good thing the sufferer may contract habits of sottish excess. We have so recently proclaimed, however, our decided objection to the use of alcohol for the relief of the nervous miseries of adolescent and of middle life, that we may venture, without fear of being misunderstood, to say here that we have much less objection to the use of alcohol as a sedative in old age than during any portion of the time in which the disturbing influence of the *sexual* functions is felt by the organism; for it does not present a tithe of the seductions to excess in the former case which it does in the self-conscious condition of the organism which exists during sexual life. Still, one would prefer to be armed with a better weapon against the miseries of old age. Tobacco has the two great defects that women cannot use it, and that elderly men, if they have not smoked before, often fail to take to it comfortably at an advanced age. Opium is probably suitable to a considerable number of elderly persons, and an interesting point in medical morals is the extent to which its use, as a mere solace of life, should be deliberately permitted to the aged. For our own part we entertain a strong opinion that the commonplace morality which is usually talked now-a-days, on this subject, is both false and cruel. No one is more keenly alive than ourselves to the evils of narcotic indulgence (*i.e.* for the mere relief of trivial nervous discomfort) during the active period of life. But upon what principle it can possibly be wrong to soothe the declining days of those who have already fought the battle of life, we are at a loss to imagine. It is needless to remark that with many aged persons opium is found to disagree, disordering their digestion and impairing their nutrition; and this really is a fatal objection, where it exists. But why it should be wrong for a nervous and irritable old person, still less for one liable to stomach-cramps, to take a daily allowance of laudanum, which has been found to make his life happy, we cannot conceive. The stock argument, of course, is that this and similar things muddle the intellect at a time when a calm retrospect of life ought to be taken, and the approach of death prepared for. But this involves an assumption of the very question at issue: for it may be with much reason maintained that the effects are the very opposite of this, and that by quieting nervous perturbation and worry we do in reality clarify the mind. And the fact is that elderly people have less difficulty than others in confining the dose of narcotic stimulants strictly or nearly strictly *within stimulant limits*, and hence one great objection to its use in earlier life does not apply here.

Still, there are social reasons which make it desirable to search for a better stimulant wherewith to soothe the nervous system of the aged than either alcohol, tobacco, or opium. We confess to a prejudice in favour of some agent which should be inhaled rather than one which should be drunk; but the number of substances which could be safely inhaled without the presence of a medical man is very limited. Neither chloroform, nor any of its substitutes except ether, would be reasonably safe. The latter drug, however, inhaled in the manner described by Sir F. Pollock, is free from all danger to life, and can very easily be kept down to the production of its purely stimulant effects. We have not personally had much experience of the inhalation of these very small doses of ether; but we have very often experimented on ourselves with small quantities taken by the stomach, and can report that the effect of these upon the nervous system is not in the slightest degree depressing, but tranquillizes only by stimulating and thus steadying the nerves. There is no temptation to take ether by the mouth, however, as it is disgustingly nasty; and this is a real advantage. Nor is it likely to be taken in any large excess by the kind of inhalation above described, as its smell is only tolerable, and by no means attractive. Without, then, expressing any positive opinion on the matter, it appears decidedly worth inquiring whether ether-inhalation might not be advantageously recommended to a large class of aged persons who would scarcely call themselves patients at all, but to whom "the grasshopper is a burden" from the irritable state of their decaying nervous systems. It used to be a maxim of medicine, that the physician is as much bound to promote the euthanasia of the sick when they *must* die, as he is to save their lives if that be possible. And surely the phrase euthanasia may be reasonably enlarged so as to include not merely the management of the illness which actually cuts off an aged person at last, but the solace of months or years of a continuous decay which is the visible precursor of death.—Ed. Practitioner.]

Reviews.

Observations upon the Action of Ipecacuanha and its Alkaloid Emetia. By DYCE DUCKWORTH, M.D. Edin. Reprinted from St. Bartholomew's Hosp. Reports, vol. v.

DR. DUCKWORTH has found much difficulty in procuring the emetic effect of drugs in young children, owing mostly, as he believes, to the failure of the medicinal substance to reach the mucous membrane of the stomach, from the presence of large quantities of mucus in that organ; he was therefore led to search for a remedy that might be subcutaneously injected, and he selected emetia, the alkaloid of ipecacuanha, for experimentation on animals.

The results of Dr. Duckworth's researches prove that emetia, hypodermically injected, acts quite successfully as an emetic, but it is not yet certain whether its use can be practically adopted, as there is some doubt whether its solutions are not too irritant, locally. The pure alkaloid has seldom been medicinally employed. It is very costly, the price being 15*s.* a drachm. The most characteristic test is tincture of galls, which throws down emetia from its solutions in the form of a tannate.

Over and above the establishment of the emetic action of the alkaloid when given by the skin Dr. Duckworth's researches decide an important point, as to the effect of the drug upon the pulmonary circulation, upon which the experiments of Magendie were directly contradicted by the more recent ones of Pécholier. The latter authority asserted that poisonous doses caused an *anæmic* condition of the lungs; but Duckworth finds, on the contrary, that Magendie was right in the statement that *congestion* of the lungs is produced. Pécholier also said that the drug diminishes the frequency of respiration and circulation, but Duckworth found the respiratory movements increased, and cardiac action not retarded. This observation is of consequence, because it upsets a theoretical basis on which it has been proposed to explain the alleged styptic power of ipecacuanha in pulmonary hæmorrhage. Duckworth is inclined to think that emetia stimulates the vaso-inhibitory branches of the vagus, and from this results inaction of the motor branches, and a condition of paralysis, or passive dilatation, of the blood-vessels presided over by the nerve. He suggests that this condition of the vagus explains the congestion, not only of the lungs, but of the gastro-intestinal mucous tract; and he promises further to investigate this subject in an additional paper, to which we shall look forward with much interest. As regards the production of vomiting, he cannot decide whether the nervous impression is made on the medulla oblongata or upon the gastric peripheral branches of the vagi. The results of one experiment, in which the vagi were divided before the administration of the emetia, seem to argue, as far as they go, that the characteristic effects of the drug are not produced when the continuity of those nerves is destroyed. A curious fact, not hitherto noted, is the frequent occurrence of *albuminuria* in emetia poisoning.

Electricity in its relations to Practical Medicine. By DR. MORITZ MEYER. Translated from the Third German Edition by WILLIAM A. HAMMOND, M.D. &c. &c. New York: Appletons. London: Trübner & Co. 8vo. Pp. 497.

THE Americans are decidedly ahead of the English in one important practical matter. They rapidly produce translations of all the best French and German medical works; and the only wonder is that they have waited so long to reproduce the excellent treatise of Meyer, which is a standard work on the increasingly important subject of medical electricity. We strongly recommend the Sydenham Society to atone for its supineness in allowing itself to be forestalled in the translation of this important work, by immediately ordering the translation of the, perhaps, even more valuable and original treatise of Benedikt on the same subject. We have so recently reviewed the third German edition of Meyer, that we may confine ourselves to two or three remarks on the general character of the American reproduction of it. The external appearance of the book is charming; type, paper, and binding are all that could be desired. Moreover, the additions in the shape of foot-notes by Dr. Hammond, contain really valuable additions to our knowledge of the practical applications of electricity in medicine. We wish we could say as much for the literary excellence of the translation, but we really cannot praise the way in which it has been done. So very harsh and clumsy, nay, sometimes almost misleading, is the phraseology of the translator, that we can hardly avoid the suspicion that the bulk of the mere translating work must have been done for Dr. Hammond by some German assistant who was very imperfectly acquainted with our language. But notwithstanding these faults, the appearance of Meyer's work in an English dress is a very welcome fact; and many will doubtless hasten to possess themselves of a treatise which is decidedly superior to anything as yet available to those who are not German scholars.

Selecta e Prescriptis. (*Selections from Physicians' Prescriptions.*) By Dr. Pereira. Fifteenth edition. London: Churchill, 1869.

Although the change which has come over the practice of prescribing in later years is doubtless, on the whole, beneficial, we cannot help seeing that it has not a few disadvantages. It is becoming more and more the custom with medical men to write their prescriptions in English, and this practice has much to recommend it, as ensuring greater safety against mistakes on the part of druggists who may be ignorant of Latin. Yet the old fashion of Latin prescriptions had one great convenience, in making the prescription intelligible to pharmaciens in all European countries. And besides this, as long as doctors really took pains to prescribe in correct Latin, the effort of doing this was a species of mental culture not without good effects upon those who practised it. One thing, however, is thoroughly objectionable, namely, the bastard Latin, or jumble of bad Latin and English, which is too frequently employed by those who are neither bold enough to emancipate themselves altogether from the old fashions, nor sufficiently educated to write a classical prescription. It is such people who provoke the sneers of University dons, and the sarcasms of Mr. Bright. We are not prepared to say that Latin prescribing should be altogether given up. But if medical men will continue the custom, then, certainly, they ought to learn to carry it out decently; and to that end they can select no better model than the well-known handbook of Pereira. The present (we are glad to see it is the fifteenth) edition brings the work up to the level of the last Pharmacopœia, and in other ways adapts it to the wants of the day. It is a handy little book, and may be heartily recommended to students and practitioners.

A System of Surgery, Theoretical and Practical, in Treatises by various Authors. Edited by J. Holmes, M.A. Cantab., Surgeon and Lecturer on Surgery at St. George's Hospital, &c. Second Edition, in 5 volumes. Vol. I.: General Pathology. London: Longmans, 1869.

We are very glad to see the publication of a new edition of this valuable work commenced; and may fairly congratulate editor and publisher on the commercial as well as the literary success which is indicated by its appearance. The expansion of the work in its present form is apparently considerable, as it is now to reach five volumes instead of four as formerly. One very great improvement effected, is the introduction of a certain number of illustrations, the want of which was a serious defect in the former edition. We need hardly say that in dealing with such matters as the microscopic characters of cancerous and other tumours, of the lesions of the spinal cord in tetanus, &c., no merely verbal description can possibly convey an adequate impression to the mind of the learner.

The contents of this volume are the now familiar treatises on Inflammation, by Mr. Simon; Abscess, by Mr. Holmes Coote; Sinus and Fistula, by Mr. Paget; Gangrene, by Mr. Coote; Ulcers, by Mr. Paget; Erysipelas, by Mr. De Morgan; Pyæmia, by Mr. Callender; Hectic and Traumatic Fever, by Mr. Croft; Tetanus, by Mr. Poland; Delirium Tremens, by Dr. A. W. Barclay; Scrofula, by Mr. Savory; Hysteria, by the same; Syphilis, by Mr. Henry Lee; Tumours and Cancer, by Mr. Paget and Mr. Charles Moore (the excellent microscopic part by Mr. H. Arnott); Contusions, by Mr. Paget; Wounds, by the same; Animal Poisons, by Mr. Poland; Wounds of Vessels, by Mr. Moore; Collapse, by Mr. Savory.

As before, the glory of this volume is the treatise on Inflammation by Mr. Simon; a paper which contains many things with which some of us would disagree, but which all must allow to display a lucidity of view, and a masterly grasp of the subject, which are, alas! very uncommon among medical writers. Long ago, in speaking incidentally of the great dreariness and want of interest which characterise medical treatises in general, Mr. Buckle expressly made an exception in favour of Mr. Simon's Lectures on Pathology; and if any one will take up the latter treatise, he will find that though written nineteen years ago, and based on information, as to facts, which further discoveries have necessarily much modified, the book is still alive with the vitality of genius; and contains numerous passages which possess that suggestiveness which in many cases is more valuable (certainly in the training of the better order of minds) than any quantity of cold and lifeless statements of so-called "facts." It is so, too, with the treatise on Inflammation, which carries us on with one continuous sweep from its beginning to its end. The secret of the interest we feel is undoubtedly this: that both in a scientific and (what is so much rarer) in a literary point of view the author has the art to present his subject as a whole which leaves on the mind the impression of clearness and freedom from the confusion of unnecessary detail, without any sacrifice of truth or completeness.

We say all this as distinctly and forcibly as we can, because, notwithstanding our admiration for the power and art displayed in Mr. Simon's great treatise, we cannot help a feeling of strong dissent, not so much from any distinct proposition which he lays down, as from the general tone of the therapeutic portion of the article—a tone which, again, is only a further expression of the leading thought of the pathological portion. That leading thought is the strong sense with which Mr. Simon feels that inflammation is an action, a movement, an increased development of force; and by consequence that the main therapeutic object should be to cut off the fuel which feeds this fire. He certainly attaches more importance to the influence of depletive remedies than any physician, and than most surgeons, of the modern schools. It is true that he protests in energetic and convincing language against the routine use of depletory measures, and as regards bleeding, in particular, gives specific reasons for doubting the power of a general bleeding to materially affect a local inflammation. It is true that he also shows, with great fulness and excellence of illustration, the tendency of starvation and all other influences which are powerful depressors of tissue-life to be followed by inflammatory action. But we cannot help remarking that he shows a tendency, on the one hand to ignore the necessity for fresh and rapid supplies of nutriment, under which the organism of a patient with inflammation labours, and on the other to attribute more beneficial influence than we can credit to "defæcative" agents. With great diffidence, assuredly, but still from observations so frequently repeated that we have no right to doubt the evidence of our own eyes, we must differ entirely from Mr. Simon's opinion that patients affected with the foul tongue and anorexia of acute surgical fever may well and safely be left to that abstinence from anything but plain water which their own sensations suggest. We cannot think that any one surgeon's experience can teach a different lesson on this point from that inculcated by the experience of practitioners in general. And certainly, if there be one thing which we have personally observed in a manner that leaves no doubt in our minds, it is the danger of trusting to the indications given by the disordered sensations of a patient in the acute pyrexia of diffuse cellulitis, for instance, as to the necessity for frequent support by food.

We have said that the too pronounced tendency, as we venture to think it, towards restrictive, depletory, and defæcatory treatment which Mr. Simon's article exhibits, is organically consistent with the leading idea of his pathology. But in the new edition of his article he expressly reserves for the present the consideration of certain alleged discoveries (and notably of Cohnheim's famous researches on the migration of blood-corpuscles) which can scarcely fail to influence materially his general pathological standpoint. As the article stood in the first edition, the leading impression of inflammation which it left on the reader's mind was that of a process characterised above all things by *rapidity of cell multiplication, and development of heat,* and curable, if at all, chiefly by direct interference with these processes. But if we are indeed to admit that the germ of the inflammatory process lies in the amœboid migration of blood-cells, and that the extent and kind of the consecutive inflammation is predetermined by the amount and kind of influences acting on those cells before their migration—and it looks very much as if we should come to this—then surely it must needs be admitted that much of the pathology and of the treatment indicated by Mr. Simon, and many other surgical writers on inflammation, will have to be set aside in favour of ideas which go more to the root of the matter. It would seem that the problems of the future will be concerned with the search for agents that can exert an influence on the life of the blood-cells (and perhaps on the vascular walls) so as to produce, to arrest, or to prevent, their amœboid migrations : and that with the discovery and classification of these agents we shall have completed the work of pathological and therapeutic inquiry about inflammation. Of course among these agents may possibly, and even very probably, be included some whose influence on the movement of the blood-corpuscles is exerted primarily through the nervous system. And we take leave to remark that in view of these probable changes of our ideas it is likely that the use of alcohol in pyrexia will come to have a very different significance to that accorded it by Mr. Simon. We are already beginning to know, and not as formerly merely suspect, that alcohol given in any case, or in any dose, so as to be *non-intoxicative,* acts as a *vascular tonic* in the only genuine sense of that phrase, *i.e.* that it raises arterial tension by its action on the peripheral portion of the circulatory apparatus. If to this it be added, as seems likely, that it directly checks amœboid movements of blood-corpuscles, then assuredly it takes the rank—in that class of cases to which it is applicable—not of a mere secondary and unimportant element of treatment, but of a remedy of the most intelligible and thoroughly scientific kind. All which is in addition to the fact, now completely proved, that alcohol is consumed within the blood and must take rank as a hydrocarbonaceous aliment which, within limits, is singularly easy of digestion. Alcohol is thus in a very different position, we submit, to that which Mr. Simon is inclined to assign it, viz. as a remedy whose excessive or untimely employment is a mere opposite equivalent of a practice so extravagantly unreasonable and unscientific as is excessive depletion.

The remaining articles in this volume show no great difference in their new dress, from their first appearance. As before, the work done by men like Mr. Paget, Mr. Campbell De Morgan, Mr. Charles Moore (especially on cancer), Mr. Henry Lee (on syphilis), is first-rate; that of several others is good, but not so good as to deserve special mention. The articles by Mr. Holmes Coote must be singled out as showing their author's well-known ability, but being singularly badly and carelessly finished. And one or two articles—like Dr. A. W. Barclay's on delirium tremens—are worse than mediocre. On the whole the first volume of the new edition of this important System of Surgery well supports the reputation of the first edition, and is calculated to meet with a reception which will recompense the accomplished editor for the laborious work which he has undertaken and carried through so well.

Experiments upon the Physiological Action of Bromide of Potassium and Ammonium. (As determined on Man and the Lower Animals.) By Robert Amory, M.D. Pamphlet. Boston: Clapp and Son, 1869.

This is the record of a very careful series of experiments which appear to establish conclusions that are a real addition to our knowledge of the action of the two bromides which are now so frequently employed in medicine. The following are the propositions in which Dr. Amory sums up his investigations:—"1. Bromide of potassium is easily absorbed by the mucous membrane wherever they are placed in contact. 2. This drug is *easily* absorbed by the skin, provided the water in which it is dissolved is below the temperature of 75° Fahr. If the temperature is above 96° Fahr., it is not absorbed. 3. The elimination is conducted by the skin and kidneys: as the saliva is a secretion its presence in this fluid is not a proof of its elimination. 4. In therapeutical doses bromide of potassium is not eliminated by the intestines or lungs. 5. Bromide of potassium passes out of the system without decomposition. As most of the decomposition of drugs takes place, according to Bernard, in the laboratory of the kidneys, Dr. Bill's theory in regard to the interchange between chlorine and bromine in the blood, is probably erroneous. If there is an interchange, it is in the kidneys; or outside of the body (in other words) that the transformation must occur. 6. The effects of the drug are produced by its direct action upon the blood-vessels, or the vaso-motor system which controls the contraction of these vessels, which explanation may account for all the physiological or therapeutical conditions brought about by the exhibition of this drug. 7. There is probably no different or opposing action in proportion to the dose administered, which cannot be said of all drugs. The larger the dose, the more intense and the longer the action upon the vaso-motor system. 8. Its action upon the general nervous system is secondary and dependent upon that of the vaso-motor nerves.

That it affects certain parts where there may be a determination of blood, is not contrary to the known laws of physiology. Lack of healthy resistance to disturbing influences allows the blood-vessels to be dilated, and, consequently, surcharged; the presence of this drug stirs up the opposing influence which contracts those vessels. This influence would be excited more powerfully upon the diseased portion of the system than upon the healthy portion. 9. Bromide of ammonium, in *almost* every respect, has the same action as bromide of potassium. This I judge from the results of more than twenty experiments conducted this last winter with a class at my laboratory." (Experiments appended.)

It may be noticed that Dr. Amory distinctly protests against the idea that bromide of potassium is a *specific* applicable to all cases of epilepsy. That variety of the disease which is dependent upon cerebral or spinal anæmia, he says, would be aggravated by it. And he insists that the action of the drug in diminishing the number and violence of fits is not permanently curative; the administration of the remedy cannot be discontinued for any length of time without a recurrence of the attacks. Apparently he believes that the immunity only continues during the period occupied by the gradual elimination of the salt from the body. On the other hand he warns us against the too frequent or long-continued use of the drug when there is no pressing necessity for interference; but we are sorry to see that he does not lay down any precise rules as to the doses to be used in various diseased conditions.

Clinical Notes on Diseases of the Larynx, investigated and treated with the assistance of the Laryngoscope. By WILLIAM MARCET, M.D., F.R.S., Fellow of the College of Physicians; Assistant Physician to the Hospital for Consumption and Diseases of the Chest, Brompton, &c. &c. London: Longmans. Pp. 135.

THIS will be found a very useful little work. Without pretending to be a complete and elaborate treatise on its subject, it affords that particularly valuable kind of information which is given by careful and life-like pictures of disease; and it is also careful and minute on the subject of treatment. It is divided into three parts: the first describes the instruments required in laryngoscopy and laryngoscopic treatment, and discusses simple laryngitis; the second treats of nervous and hysterical aphonia; and the third describes laryngeal phthisis and its treatment.

The two points which have chiefly arrested our attention in reading this little work are the remarkable effects obtained in cases of nervous and mixed aphonia by a judicious employment of electricity (either alone or in combination with other means), and the very careful description and discrimination of the early symptoms of "tubercular" laryngitis, and their appropriate treatment. On the latter subject, especially, we doubt if any such exact and painstaking descriptions exist, in the English language. We have one or two small bones to pick with the author, however. It is a little too bad of him to contribute by his example to the perpetuation of a confusion like that of calling the *induced* electric current "galvanism." It is hard enough to get the profession to recognise, at all, the important differences which exist between the nature and effects of the induced, and of the constant currents, respectively; but at least an essential step towards that object consists in establishing the custom of reserving the word "galvanism" strictly for the constant current. And we are rather disappointed to find that he does not appear to have made any experiments with the constant current, of which Tobold has spoken in very high terms, and has insisted on its superiority to the induced current as a remedy for paralyses and neuralgiæ of the larynx. Also, we are rather sorry for the way in which the author has used the word "tubercular." His description of the diseases of the larynx, which are more or less closely connected with consumption, are, as we have said, admirable; but he does not enter at all into the questions which are now so rife as to the distinction between caseous inflammation and true tuberculosis.

These, however, are but slight faults in a treatise which bears throughout the impress of true and enthusiastic work, and has the special educational value which belongs to such books, as contrasted with the work of the mere compiler. The author acknowledges with friendly candour all that has been done by Morell Mackenzie, Gibb, and Johnson: but he has succeeded in making a real addition to our knowledge of the important subject of which he treats.

A Text-book of Practical Medicine, with particular reference to Physiology and Pathological Anatomy. Translated from the German of Dr. FELIX NIEMEYER (Seventh Edition), by G. HUMPHREYS, M.D., and CHARLES E. HACKLEY, M.D. Two vols. 8vo. New York: Appleton. London: Trübner and Co. 1869.

HERE is another instance of the enterprise which the Americans show in translating all the important works of German medical writers. We are free to confess, however, that the English have a good deal more excuse for not having produced a translation of Niemeyer's book than for neglecting to translate Meyer's or any German treatise on medical electricity. While on the latter subject almost nothing has been done in England, and almost everything has been done in Germany, in the general field of practical medicine it is very different. We may fairly plead that there are English text-books of practical medicine which will bear favourable comparison with anything which has been produced in Europe.

The "Specielle Pathologie und Therapie" of Niemeyer is, nevertheless, a book that well deserved to be translated. Our readers have already seen our ideas of the German version (*Practitioner,* Sept. 1868), and it is only necessary to insist here, that Professor Niemeyer is one of the greatest of living physicians, and has moreover a strong bent towards the philosophic study of therapeutics, of which subject he is professor in the University of Tübingen. There is a great deal in these volumes with which we totally disagree; and we believe that most English physicians will assert with confidence that much of the antiphlogistic treatment recommended by Niemeyer is totally unnecessary: we would specially instance the remarks on pleurisy, which the author makes out to be a disease far more formidable than we think it in this country. But notwithstanding all this, the book is one that ought to be carefully read, and will convey many useful ideas, as the work of really great men always does. We may add that the translation of this book is almost as good as that of Meyer's treatise, above noticed, is bad.

Clinic of the Month.

Treatment of Ovarian Tumours by Tapping.—An able paper appears in the *Lancet* from the pen of Mr. Southam, of Manchester, in which he seeks to re-establish the value of simple tapping in the case of ovarian tumours as a means of keeping the growth of the tumour in check and the patient's general health unimpaired, and contrasts it with the high rate of mortality observed to occur after ovariotomy, even in the hands of the most skilful operators. Mr. Southam calls attention to the fact that tapping has sometimes arrested the disease for so long a time that it has almost been regarded in the light of a cure; and three such cases have fallen under his own personal observation, leading him to think that, in cases judiciously selected, the operation, if carefully performed, might be more frequently successful than is generally supposed. He thinks that one or two tappings are not likely to hinder the success of a subsequent operation of ovariotomy. On the contrary, one or two tappings, especially when the cyst has obtained a considerable size, are usually succeeded by a marked improvement in the patient's general health, and by a reduction of the original tumour, so that only a moderate incision through the abdominal parietes will be necessary for its abstraction; both of which conditions are favourable to the success of the major operation. He remarks that perfectly simple cases of ovariotomy sometimes, and indeed more frequently, prove fatal by peritonitis than cases of longer standing and of a more complicated character, in which death, if it occur, results from shock; the tendency of the peritoneum to inflammation being probably diminished by the friction against the cyst to which it has been exposed. From these considerations Mr. Southam has been accustomed to postpone the performance of ovariotomy, and in the earlier stages of the disease, whether the tumour be single or multilocular, to tap it once or twice when it has become inconveniently large; and since adopting this plan he has removed seven diseased ovaries with only one fatal result. Mr. Southam refers to the importance of tapping in order to obtain an accurate diagnosis, and also comments on the great improvement on the old plan of that which is now adopted—the patient being made to recline, the trochar being small, and the fluid removed by an elastic syphon which prevents the entrance of air, no compressive bandage or manipulation being now employed. (See *Lancet*, Oct. 30, 1869.)

The Treatment of the Pedicle after Ovariotomy.—Mr. Maunder thinks that too much consideration is ordinarily paid to the pedicle of ovarian tumours, because various modes of treatment adopted by different surgeons are followed by equally felicitous results, showing it to be a matter of small importance which plan is adopted. The chief point, he thinks, is the prevention of hæmorrhage; and if a surgeon had sufficient courage he might resort to torsion, retaining or not the cut pedicle at the wound. The objection to torsion however is, that when the patient rallies from the depression caused by the operation, some vessel or vessels previously unobserved may bleed; and a similar objection applies to sealing the end of the pedicle with a hot iron and returning it into the abdomen—the eschar may become detached and fatal hæmorrhage ensue. The choice remaining therefore, is between securing the pedicle with a ligature and returning it, or retaining it at the surface of the wound with a clamp or ligature. The first method introduces a foreign body into the abdomen, and he therefore, with occasional exceptions, advocates the latter plan of treatment. (See *Med. Times and Gazette*, Oct. 9, 1869.)

Fungus of the Dura Mater.—Dr. Lawson Tait reports a case of this disease, which he considers to be of a cancerous nature, occurring in a foreigner. He believes, with Chelius, that it may spring from the dura mater, from the pericranium, or from both simultaneously. The present case was one of the latter variety. When first seen it had grown slowly, was soft, and pseudo-fluctuating, and occupied the right temporal fossa, being about one inch and a half in diameter. It was quite flat, and he suffered much pain when he attempted to rest upon it. The patient died about six weeks after, and the tumour was then found to be capsulated by the pericranium, and to have eroded but not perforated the skull; a similar but smaller tumour was growing from the corresponding surface of the dura mater. The substance of the tumour was of soft consistence, reddish yellow in colour, and composed of numerous regularly-shaped nucleated cells, with sparse interlacing of fibres. (Ibid.)

Solvent Treatment of Uric Acid Calculus.—The Rev. Vernon Harcourt furnishes an important communication, read before the Exeter meeting of the British Association, on the solvent treatment of uric acid calculus. In July 1868 he was informed he had a stone in the bladder of the probable diameter of one and a half inches, and he was recommended to aim at preventing its enlargement by such doses of citrate of potash as might keep the urine in a state approaching neutrality, this recommendation being founded on the experiments of Dr. Roberts, showing the remarkable solvent power over uric acid that this salt possesses. He pursued this plan vigorously, but states he has been unable to produce any positive chemical evidence in favour of the solvent plan, chiefly on account of the uncertainty of the tests for uric acid. Yet he is persuaded that a solvent action was really going on; for an examination of the urine showed that there was a small amount of constant deposit, enveloped in mucus, bearing a close resemblance to the detritus left by the incomplete action of carbonate of potash on fragments of uric acid calcule. Having leisure, the requisite knowledge, and a good laboratory at his command, Mr. V. Harcourt made a series of investigations with a view of ascertaining the best mode of testing for uric acid, which has resulted in his devising the following plan, that may prove useful to some of our readers. A third or fourth part of the urine of twenty-four hours is, if alkaline, to be neutralized with hydrochloric acid, or if acid, with carbonate of potash. The urine is then to be evaporated to 1½ fluid ounces; and afterwards to be treated with 3 drachms of hydrochloric acid, combined with 1½ fluid ounces of alcohol; when clear the fluid is to be decanted, and the deposit washed first with alcohol, and, when that dissolves no more, with equal parts of acetic acid and water. The amount of potash in the urine does not detract from the accuracy of the determination. (See *Medical Times and Gazette*, Oct. 23, 1869.)

Suppression of Urine cured by external use of Digitalis.—Dr. Howard Reynolds gives the details of a case of suppression of urine, occurring in a woman, aged 47, in which only a wine-glassful of urine had been voided in the previous six days. Constant sickness was present, with slight drowsiness, and frequent pulse. The bladder was not distended. The patient thought she had often suffered from gravel, but had never been under treatment for it. Dr. Reynolds immediately commenced treatment, employing diaphoretics, warm applications, and the internal use of digitalis, in one-grain doses every four hours, up to the evening of the eighth day, without any satisfactory result, except that the pulse fell from 114 to 80 per minute. It was then determined to try the effect of the external application of digitalis. A large quantity of the fresh leaves was speedily collected, and these were made into a pulp by pouring boiling water over them. The first poultice was applied about 11 P.M., and was kept on for four hours, when it was removed and a fresh one supplied. Two hours afterwards a pint of clear pale urine was passed. A fresh poultice was again applied, and the patient was carefully watched. Plenty of urine continued to be voided, and the patient was gradually restored to perfect health. (See *Lancet*, Nov. 6, 1869.)

Charcoal Respirators for warming and purifying Inspired Air. — Dr. Marcet suggests the employment of an ori-nasal respirator, so constructed that the air for respiration passes freely through a thickness of nearly half an inch of tightly-packed fragments of charcoal; for he has found experimentally that such an instrument will not only warm the cold air breathed out of doors by from 8° to 11° Fahr., but will also impart additional heat to the air of a room comfortably warm, although considerably under the temperature of the body, and he regards it as questionable whether, in certain cases of excessive irritability of the throat or bronchi, the indoor use of the respirator may not be attended with advantage. Dr. Marcet states that his experience is now tolerably extensive as to the outdoor use of a respirator of this kind in the winter time, as a number of his patients at the Consumption Hospital are now wearing them in cold or foggy weather, or to rid air of smoke or other impurities, and they all agree as to the comfort and benefit they experience from their use. (Ibid.)

Treatment of Spinal Arthropathy.—Dr. Benj. Ball remarks that in diseases of the joints connected with progressive locomotor ataxy, the joint affected presents at first only slight symptoms, but hydrarthrosis is soon established, and the neighbouring tissues and bursæ become infiltrated with serum. At a later period permanent disorganization of the articulation, and destruction more or less complete of the articular surfaces, occur. In regard to its treatment, he considers it highly important to check its progress as rapidly as possible, and this may be best effected by absolute rest of the afflicted limb, by the use of revulsives, and especially of blisters, and at a later period he has found compresses exercise a favourable influence in bringing about resolution of the œdema, and hastening the absorption of the effused fluid. (See *Med. Times and Gazette*, Oct. 30, 1869.)

Mode of administering Creosote.—As creosote is now frequently employed in the treatment of typhoid fever, and is exceedingly distasteful to some patients, it may be worth while to mention here a formula which in great measure covers its flavour, and is easily prepared:—

Creosote, 3 drops.
Essence of lemon, 2 drops.
Orange-flower water, 1 ounce.
Spring-water, 3 ounces.

A spoonful to be taken at frequent intervals throughout the day.

Extracts from British and Foreign Journals.

Treatment of Dysentery and Diarrhœa.—M. Gros recommends ergotine in these cases; he treated forty-four cases of dysentery with it, and had but one death, this being caused by dietetic irregularity on the part of the patient. Twenty-five of the cases were of a mild type. He gives six grains in mucilage, and frequently also gives clysters of twelve grains in starch. When it is not desirable to check the discharges too suddenly, as in acute diarrhœa, the enemata alone are used. He also speaks favourably of its effects in the chronic diarrhœa of adults and children: the latter take the remedy best in the form of *dragées.* The clysters are particularly useful as hæmostatics in the bloody dejections of dysentery. (*Edinburgh Medical Journal*, Nov.; and *Allg. Wiener Med. Zeitg.*)

Treatment of Ingrowing Toenail.—Dr. J. Quigley states that, having been a subject of this disease several years ago for a length of time in both great toes, the various methods adopted, such as "scraping down the nail on the affected side till it was thin and yielding, then introducing cotton under it," "removal of the corner," "keeping the sulcus between the nail and the flesh clear of epithelium," the use of nitrate of silver, astringent lotions, and a variety of other plans, not however including an operation under chloroform, all failed in effecting a cure. At length the following course was pursued:—A triangular notch was made midway in the free edge of the nail, extending to its body (the piece out of which should be in size about like the tooth of a tenon-saw); from the pointed margin of this notch a furrow was made, as near to the quick as possible, without penetrating it, through the middle of the root as far as the duplicature of skin; a piece of cork was then inserted under the nail, whose bulk was large enough to extend a few lines on either side of the notch, as well as to compactly fill, without uneasiness, the interspace between the skin and extremity. This completed the "operation."

In a few hours relief was marked, rapid improvement followed, and in a very short time it was quite evident the cure was complete. The elevating tendency of the piece of cork caused the corners to rise from the inflamed flesh, while, at the same time, the furrow through the centre allowed the nail to flatten, and the burrowing edge of the ingrowing corner to eventually pass over and beyond the limited space of its former confinement. Thus, it is plain, all the indications of cure were fulfilled.

Dr. Quigley has since pursued no other plan of treatment in such cases, and, in every one, with unfailing success. (*Medical and Surgical Reporter*, Sept. 11, 1869.)

The Therapeutics of Dysentery.—Dr. Q. C. Smith, in a short paper on the subject, remarks that, after much reading, he finds great difference of opinion amongst "authorities," and he thus sums up that which he has himself found to be effectual. In the first place all complications, as far at least as time and circumstances will permit, should be removed, and then the following mixture may be administered :

M. Peach-leaf syrup, ℥iv.
Syrup of ipecacuanha, ℥ij.
Aromatic spirit of rhubarb, ℥ij.
Acetate of morphia, gr. viij.—Ft. mist.

One tea-spoonful to be given every two hours through the day, the patient being allowed to rest undisturbed through the night. If this amount cause the patient to vomit, the dose must be diminished until the stomach will retain it. As to diet, mutton-broth may be given in the earlier stages, and as the stomach becomes stronger, mutton itself. The "peach-leaf syrup" referred to in the prescription is not officinal, but may thus be prepared : Fill a kettle with fresh, well-matured peach leaves, add enough water to cover the leaves, boil gently one hour, remove the leaves, strain the liquor, and while hot add sugar to make a syrup ; to this when nearly cool add one ounce of peach brandy, and two grains of gum camphor to each quart of syrup. (Ibid. Aug. 14, 1869.)

Subcutaneous Injection of Morphia for Chronic Ulceration.—Dr. Mobley gives the details of a case in which an ulcer existed on the leg for a considerable period, resisting various plans of treatment. There was great swelling, accompanied by intense itching ; the patient had no appetite, was much emaciated, and obtained little sleep ; opiates produced no effect. Dr. Mobley ordered the application of a lotion composed of eight ounces of the expressed juice of the *Passiflora incarnata*, mixed with four drachms of cod-liver oil, three times daily, and at the same time he hypodermically injected one-third of a grain of sulphate of morphia to allay the pain. In six weeks, the same plan being pursued, the patient was well. Three other cases of ulceration were treated in a similar manner with equal success. (Ibid. Aug. 7, 1869.)

Treatment of Elephantiasis of the Nose.—M. Guibout states he has successfully treated a case of this disease, in which the nose of the patient was greatly swollen, bossy, of a deep port-wine colour, and felt by the patient to be so extremely disagreeable in appearance, as to compel him to seclude himself almost entirely from intercourse with the world, by the following means :—Every three or four days M. Guibout made from six to ten deep cuts with a double-edged lancet; the incisions were permitted to bleed for five or ten minutes, and then a pledget of charpie was placed over the organ, soaked in a concentrated solution of sal-ammoniac, pressure being maintained by means of rollers passing round the head, and the pledget kept constantly moist by the patient; at the same time a saline purgative was administered, with emollient drinks and diuretics. These frequent incisions freed the varicose vessels of the nose of some of their contents, and modified the vitality of the parts, which were powerfully affected also by the topical astringents subsequently applied. The numerous incisions produced an infinity of small cicatrices, so that a kind of artificial tissue of new formation became substituted by degrees for all the capillary venous and arterial varicosities of the diseased nose, till at length the organ resumed almost its normal and regular form, destitute of elevations, and of a colour scarcely more pronounced than that of the rest of the face. (*Lyon Médical*, October 24, 1869; and *Ann. de Derm. et de Syph.* No. II. 1869.)

Treatment of Sunstroke.—We notice, in the third edition of Dr. Flint's excellent "Practice of Medicine," that the author remarks that an unusually large number of cases of insolation occurred in July at the Bellevue Hospital. Of forty-three cases thirteen died. The treatment adopted was ice to the head, sponging the whole body with cold water, dry-cupping to the chest, sinapisms to the extremities, and stimulating enemas. In one set of cases bromide of potassium was given freely, the treatment being otherwise similar. In this set of cases the number of deaths was four, the total number being seventeen. In the cases in which this remedy was not employed, there were nine deaths in twenty-six cases. The experience is not sufficient to enable any positive conclusions to be drawn respecting the value of this remedy, but certainly justify its further trial. (*Flint's Practice of Medicine.*)

Therapeutic Value of the Preparations of Iodine.—M. Bouchardat remarks, that amongst the preparations of iodine in ordinary use we must establish two categories, presenting remarkable differences in their physiological and therapeutic uses. In the first must be placed the compound preparations of iodine, which especially act by means of the free iodine, or that which is easily set free. In this group may be placed tincture of iodine, iodated solutions, the iodides of iron and calcium. These preparations are not naturally eliminated from the body, and ought therefore to be given in very small doses; others, like the iodides of potassium and sodium, and especially the former, are normally eliminated, and may therefore be given in large doses. Another independent power possessed by the action of iodine compounds is their capability of carrying off in the excretions metallic substances which have been long retained in the body. When large doses of iodide of potassium are given, besides this eliminative action, the properties peculiarly characteristic of the salts of potassium become apparent, especially their disposition to be discharged by the kidneys and the salivary glands, from whence it follows that they incontestably possess a certain diuretic and sialogogue influence. From this it would appear that very moderate doses of iodide of iron and of the iodide of calcium should be administered, and the effects of these should be carefully watched. The last-named salt merits, from several points of view, careful attention at the hands of practitioners. It is a less stable salt than the iodide of potassium, on which account no doubt it has been employed to a much less extent; but this very instability renders it the more valuable as an iodine compound, providing at the same time it is administered in small doses, as from one to seven grains, its effects being observed with care. It acts beneficially in a double point of view, as an iodine compound and as a preparation of lime. It has been employed in phthisis, and may be regarded as very useful in certain forms of scrofula. It may be prescribed with advantage in glycosuric anæmia alternately with iron and quinine. (*Bulletin général de Thérapeutique,* Oct. 15, 1869.)

Treatment of Alopecia.—M. Hardy recommends the following pomatum for cases of loss of hair, not dependent on syphilis or any parasitic affection:—

Suet	60	grammes.
Castor oil	25	„
Gallic acid	2	„

with a few drops of essence of vanilla. The presence of slight pityriasis does not in any way contra-indicate its employment. (*Journal de Pharmacie,* Oct. 1869.)

Treatment of Phagedenic Ulcer.—The *Journal de Pharmacie* states that the following ointment has been found advantageous in the treatment of this formidable disease:—

Extract of rhatany	4 parts.
Camphor	1 "
Extract of opium	2–4 "
Lard	30 "

Clinical Facts in reference to Chorea.—Professor Steiner maintains that chorea must be regarded as originating in spinal irritation, which may be occasioned by anæmia, by hyperæmia, by serous effusions and extravasations of blood, and lastly by neoplastic formations and organic changes occurring in the spinal cord itself, and in its membranous and osseous coverings. These conditions may be of traumatic origin, or may be consequences of acute rheumatism, or, finally, may result from anomalous processes of growth and development. The Professor had opportunities of making post-mortem examinations of three choreic subjects. The first resulted from a wound, and he found increase of growth in the connective tissue and an anæmic condition of the spinal cord, the spinal canal containing much serous fluid; in the second case he found a considerable degree of hyperæmia of the meninges and of the substance of the spinal cord, with serous effusion into the canal; and in the third case, which had been the subject of articular rheumatism, he found pericarditis and endocarditis, as well as inflammatory exudation into the canal of the spinal cord.

Anæmia of the spinal cord is the condition which the Professor believes to be most frequent, accompanied by certain anomalous processes of growth and development, since in fifty-two cases of the disease the ages of the sufferers were from six to eleven. According to the nature of the changes, the choreic symptoms are slight or severe, unilateral or bilateral, curable or incurable. Amongst the fifty-two cases forty were female, twelve male. When spinal irritation is already present, the attack of chorea may be induced by psychical causes, as fear, fright, &c., or by certain mechanical causes, as blows, falls, &c. The usual duration of the disease is from four to nine weeks, but relapses are frequent.

In regard to the treatment of the disease, Professor Steiner holds that chorea in the majority of cases cures itself, though there are other cases which resist every remedial means. Certain remedies, however, ameliorate and shorten the duration of the disease in the first class of cases. In view of the anæmia so frequently present, Professor Steiner orders iron, either alone or in combination with oxide of zinc, as in the following prescription:—Ferri carbon. saccharati, 2 parts; zinci oxyd. 1·25 part; sacch. alb. 8 parts: M., ft. pulv. t. d. sumen. The diet should be easily digestible and abundant. If after the employment of the iron for a fortnight no improvement occur, the Professor resorts to the preparations of arsenic, by which the disease is often quickly and certainly cured, the general nutrition of the body and the appearance being at the same time much improved. He usually commences with one drop *per diem,* and increases the dose after three or four days to two, three, four, and five drops, and then, if improvement have resulted, withdraws the remedy in the same gradual way. Cold water, applied hydropathically, is sometimes very serviceable. If the disease owe its origin to rheumatism, the remedies appropriate to that diathesis must be administered. The subcutaneous injection of arsenicum, sulphur, chloroform, and morphia furnishes no satisfactory results. (*Der praktische Arzt.,* Nov. 9, 1869.)

Treatment of Tetanic Convulsions by Ice.—M. Leriche reports an interesting case in which a young lady, previously in good health, suddenly experienced pain and weakness in the calves of the legs. After walking a short distance she fell on a sofa with her legs extended and painful. She was lifted upon a bed, and after a short interval the muscles of the body, arms, and neck became convulsed. The fingers were tightly clenched, and neither they nor the limbs could be extended. She could be lifted from the bed like a board. The intellect was unaffected, but there was a little impediment in the speech. Deglutition was impossible. The eyes were not convulsed. The skin was insensible. The pulse was normal. The respiration was slightly embarrassed. The abdominal muscles were relaxed. Opisthotonos was very distinctly marked. Dry frictions were first employed, followed by douches of cold water over the body. The patient stated that she felt benefit from these. Encouraged by this, portions of ice were placed on the neck and rubbed up and down the spine. In five minutes the chest and neck muscles were relaxed. Ice was now applied to various parts of the lower extremities without effect, but on being applied from above downwards, first to the lumbar and then to the sacral regions, speedy and permanent relaxation of the muscles of the lower limbs occurred, and the patient experienced no further bad symptoms.

M. Leriche remarks that this case differed from true tetanus in the absence of trismus, its commencing in the lower extremities, and by the absence of any previous accident or premonitory symptom. We may suppose that in this case there was a state of hyperæmia of the anterior columns of the spinal cord, which was removed by the application of the ice. It is remarkable, however, that there should have been anæsthesia of the skin of the parts convulsed. (*La Revue médicale,* Oct. 15, 1869.)

Carbolated Alcohol.—Dr. Williams extols a solution of carbolic acid in alcohol as an admirable dressing in certain surgical cases. The formula he recommends is as follows:—

℞ Acid carbolic, gr. v.
Alcohol dilut. U.S. P. f. ʒij.
Aquæ destillat. f. ℥j.—M. ft. lotio.

This, when applied to the surface of a recent wound, seems to promote speedy union. In cases of extensive cuts and amputations the wound should be permitted to dry and glaze as much as may be convenient before application. Dr. Williams thinks the efficiency of the remedy probably depends upon the coagulation of the free or excited albumen by the alcohol, thereby coating the surface and preventing further exudation and separation of the surfaces of the wound, and also upon the antiseptic property of the acid. (*Medical and Surgical Reporter*, No. 8, vol. xxi.)

Treatment of the Capillary Bronchitis of Children.—Dr. J. Da Costa recommends emetics for the capillary bronchitis of children. He gives

℞ Zinci sulphatis, gr. iij.
Pulv. ipecacuanhæ, gr. ij.—Ft. pulv.

To be taken every ten minutes till sickness occurs. In a child of three years of age one such powder may be given morning and evening, together with the following:—

℞ Sp. æther. nit. ♏x.
Ammon. carb., gr. j.
Syrupi senegæ, ♏xx.
Syrupi tolu, ♏x.
Aquæ, ♏xx.

One dose every third hour. Also, when the child is weak, twenty drops of brandy three times a day. Counter-irritation over the chest, by means of weak mustard plasters, may be employed. The most successful treatment of capillary bronchitis in children is, in Dr. Da Costa's opinion, that in which both stimulating expectorants and emetics form a part. Children cannot expectorate, and nothing gets rid of the mucus more quickly and effectually than emetics. The only objection to their use is that nearly all emetics are prostrating. Hence these agents must be given with judgment, and not repeated often enough to produce weakening results. (Ibid.)

On Transfusion of Blood.—Dr. Albanese reports that he has employed the transfusion of blood in seven cases, some of which were treated in Hospital della Concezione, and others in his own private practice. In all the cases defibrinated warm filtered human blood was employed, and the injection syringe was introduced into the radial artery, and the fluid transmitted towards the periphery. In one case, the patient having lost the arm, the pedal artery of the left side was injected on the second occasion. The injected extremity below the point at which the syringe was introduced became in all instances cyanotic, cold, and swollen, but these appearances began to disappear in the course of half an hour, and soon disappeared entirely. In one case only ecchymoses formed in both hands; but large softened thromboses were found in many other places on section. Of the seven cases, the patient being *in extremis*, four recovered, of which in one the transfusion had been performed for anæmia from hæmorrhoids; in a second for bleeding after delivery; in a third for exhaustion from loss of blood consequent on a wound of the ulnar artery; and in the fourth for septicæmia. In the three fatal cases the cause of death was septicæmia. In the first three cases transfusion was only performed once. In the four cases suffering from septicæmia, it was performed twice. Great improvement followed the first injection in all cases, but the improvement consequent on the second operation was only transitory, and was followed by rapid decline terminating in death. The septicæmic patient that lived gradually recovered from this state. The quantity of blood injected amounted in the different instances to from three to six ounces. In most instances the anæmia of the patient was so great that scarcely a drop of blood was lost. Rigors or symptoms of oppression were only observed in one instance. These results appear to us to be encouraging, and certainly no woman should be allowed to die from hæmorrhage after delivery, without an effort being made to save her life by this means. (*Centralblatt*, Oct. 2.)

In connexion with the transfusion of blood we observe that a physician of St. Petersburg, M. Gesellus, rejecting the employment of defibrinated venous blood, proposes to obtain the supply needed from the cutaneous capillaries. With this object in view he has constructed a small apparatus with a glass sucker and scarifier. To this is attached a pneumatic pump and a glass tube to be used in the act of transfusion, terminating in a trochar, and capable of containing about five ounces of blood. This is surrounded by a caoutchouc bag containing water at 100° F. by which the coagulation of the blood may be prevented. The sucker is to be applied to the back of a healthy person, the lancets pressed into the skin as in cupping, and the blood as it flows collects in the lower part of the tube which is closed by a stopcock. The extremity of the tube is now plunged into the cephalic or median veins of the patient, and the blood allowed to enter his veins by the force of gravity.

In a late number of *Le Mouvement Médical* appears a mode of destroying the fœtid odour arising from burns, which is certainly worthy of trial. It is well known that burns of the third or fourth degree, at the period when the eschar is separating, exhale an insupportable stench. For the purposes of disinfection carbolic acid may be employed; but when this happens not to be obtainable, its place may be taken by a solution of sulphate of iron. A good example of its beneficial action is exhibited in the case of a child recently under the care of M. Joel, of Lausanne, in whom the thighs, belly, buttocks, and back were extensively burnt. He was at once covered with carron oil, applied on waxed linen; on the fourth day abundant suppuration occurred, with febrile symptoms; an exceedingly foul odour was given off. To obviate this the child was immersed twice a day for fifteen or twenty minutes in a warm bath containing a considerable quantity of sulphate of iron. The advantages gained were immediate; suppuration diminished, and all odour vanished. The subsequent dressings were made with glycerine.

New Remedy for Ague.—M. F. Lorinser states that the agreeably smelling leaves of *Eucalyptus globulif.* may be employed with great success in the treatment of the marsh fevers of Spain and Portugal. The plant is a native of New Holland, and belongs to the family of the Myrtaceæ. M. Lorinser cultivated a few specimens, and prepared an alcoholic extract of the fresh young leaves (℥ij of the leaves to ℥vj of alcohol). Two teaspoonfuls of the tincture given either with or without a purge, before the attack, invariably shortened it and prevented a relapse. The possibility of cultivating it, and its pleasant flavour, render its introduction into practice not improbable. (*Centralblatt,* Oct. 2.)

Cold-Water Cure of Intermittent Epilepsy.—M. Pascal, the intelligent editor of *La Santé Publique,* a journal to which we have no analogue in England, and which ably discusses all questions of social and public medical importance, observes that the cold-water cure, or hydro-therapeutics, is steadily advancing, notwithstanding the opposition that has been offered to it by cupidity and ignorance. M. Monneret instituted the treatment of lead colic by cold water before he died, which has proved extraordinarily successful, and now M. Decaisne comes forward to propose the same means for intermittent epilepsy. He states that he has convinced himself of the fact that cold water materially modifies nervous attacks, and is an exceedingly efficacious antiperiodic. In twelve cases he has had four complete and permanent cures, five cases in which great improvement occurred, and three in which no good result was obtained. (*La Santé Publique,* No. 34.)

Notes and Queries.[1]

ON THE ACTION OF IPECACUANHA IN VOMITING, AND ITS RATIONALE.—Mr. Richard Hughes, L.R.C.P. Edin., writes as follows:—"As the Editor of the *Practitioner* desires to accumulate evidence as to the effect of small doses of ipecacuanha in checking vomiting, I venture to submit the following cases:—

"I. Mrs. F——, aged 39, came under treatment August 19, 1864. Nine months ago, without assignable cause, she lost her appetite, and then began to vomit all her food soon after taking it. This has continued till the present time, and she has become very weak. The bowels also are relaxed, but the tongue is natural, and the other functions regularly performed. As she complained also of smarting of the eyes, I inquired about the wall-paper of her rooms, and hearing that it was green, desired her to bring me a piece of it, that I might examine it for arsenic. In the meantime I prescribed a dose, three times a day, of a tincture of ipecacuanha, so diluted that each dose should contain one-hundredth of a grain of the crude drug.

"*August* 26.—The vomiting has gradually diminished during the week, and has now quite ceased. She feels much stronger, so continues the medicine. (I had examined the wall-paper and found it non-arsenical.)

"*September* 2.—The report to-day is, 'No vomiting; gaining strength.'

"She took the ipecacuanha for a fortnight more, and then a non-medicinal placebo for three weeks, that I might keep her under observation. The symptoms all subsided, and she became quite well.

"II. Frederick G——, aged 54, consulted me August 1, 1865. He has vomited everything he has taken for three months past. The food causes pain during the short time it remains in the stomach; the tongue is coated brown, and is cleft. The bowels are regular; the urine thick.

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[1] The Editor, being desirous of making this department a useful medium of communication between practitioners, will be glad to receive short notes on theoretical or practical points in therapeutics,—brief jottings on those numerous queries which suggest themselves from time to time to a medical man as he "goes his rounds," but which he has neither the time nor, in some cases, the opportunity of answering. The Editor does not pledge himself to reply to every question addressed to him, but he hopes to make the "department" the means of supplying the information required; and this he can only effect by the hearty assistance of his readers.

"Ipecacuanha was ordered as in the previous case.

"*August* 8.—There has been no vomiting after the first two or three days. The feeling of nausea persists, and there is some pain after food. Continue medicine.

"*August* 15.—Continues to improve. Perget.

"*August* 22.—There is nothing wrong now but slight nausea and a little foulness of the tongue, for which I gave him a few doses of pulsatilla nigricans. He called on me on September 14, about his wife, and reported himself as continuing quite well.

"The form of vomiting illustrated by the above cases is that in which I have found ipecacuanha most serviceable. It is a moderate amount of irritation of the gastric mucous membrane, with disproportionate impatience of the presence of food in the stomach. But my experience quite coincides with that of Dr. Charles Phillips as to the value of the drug in the vomiting of pregnancy and of whooping-cough.

"I desire to be allowed to add a few words upon the *rationale* of this action of ipecacuanha. The Editor of this Journal 'calls attention to the fact that should it be proved, as seems likely, that small doses of ipecacuanha exert a tonic effect upon the sympathetic system generally, it will be the most effective blow yet given to the homœopathic theory of *similia similibus*.' It might be such a blow were this theory put forward as the *interpretation* of the curative action of ipecacuanha or of any other drug. But it makes no such claim. It professes only to be a guide to the selection of the remedy. It is a generalization of an empirical and phenomenal order—a rule of art rather than a law of science. As such, it is untouched by any speculations as to the *modus operandi* of remedies. It is simply an organon for the discovery of remedies of the class called 'specific.' Those may be and have been otherwise discovered. But those who are guided by *similia similibus* believe that by its means more 'specifics' have been found in the last half-century than have rewarded other modes of research for the previous five thousand years. Take this very instance of ipecacuanha. Is it very likely that the opinion that it exerts a 'tonic action upon the sympathetic system generally' would have led to its use in vomiting, and would have indicated minute doses as the most suitable for the purpose? while, on the other hand, I am sure that both Dr. Ringer and Dr. Phillips would readily admit that they learnt this use of the drug from those who had themselves arrived at it by following the rule *similia similibus curentur*, and to whom its value in vomiting has been a familiar fact for the last fifty years and more.

"Is it not time, let me ask, that their example was more widely followed? The (so-called) homœopathic school comes before us with an array of alleged facts as to the efficacy of drugs given on the 'similar' principle. Is not the instance before us an encouragement to the testing of these allegations by experiment? It is purely a question of fact. All disputes as to the *rationale* of medicinal action, as to the range of the applicability of the method, as to the explanation of its efficacy, may well remain in abeyance. The matter of dose even is quite secondary. It is admitted that many similarly-acting drugs are curative, as in this instance of ipecacuanha, in doses not too small to offend ordinary susceptibilities. Homœopaths say that they began with such doses, but were led by experience to reduce them in many cases very much further. If they were right, experiment will lead others to the same result. If not, it is well that their mistake should be exposed, and separated from what may be their truth. In any case, it surely behoves the profession to winnow the wheat from the chaff in this field also, and to ascertain what is the fire, however little, which has caused this volume of smoke."

[The author of the above note misses the main drift of our objection to "*similia similibus*," and also to "Allopathy," which is, that there is no such thing in existence as a "similarity" or a "difference" between drugs and diseases, except in a thoroughly superficial and misleading sense. The idea is metaphysical, not scientific; and all history shows that such ideas form the worst possible basis for scientific inquiry. No better proof of this mischievous tendency could be shown, in our opinion, than its influence in keeping up the belief in "specific" remedies.—ED. PRACTITIONER.]

DR. GEORGE GENT writes to us on the same subject as follows:—"In answer to your invitation in the last number of the *Practitioner*, for those who have had any experience in the action of ipecacuanha in vomiting to express the result of this treatment, I beg to forward you the following remarks:—For a considerable time past I have been in the habit of giving ipecacuanha in drop doses as a remedy for vomiting, and after considerable experience of this treatment, and very careful observations, I believe I am justified in making the following statements. 1. That ipecacuanha is extremely useful in very many cases of vomiting in pregnancy, but is certainly not an infallible remedy, although it will often remove this troublesome symptom when other remedies have been tried without avail. If ipecacuanha does good, I have always found it act at once. 2. That ipecacuanha is also extremely useful in checking the vomiting of children, arising from catarrh of the stomach. 3. Ipecacuanha will very often control the vomiting of drunkards. 4. That in many cases of vomiting, where the cause cannot be discovered or explained, I have often found ipecacuanha to give immediate relief."

ALLEGED EVIL EFFECTS OF CARBOLIC ACID.—Dr. W. S. Playfair writes to us as follows:—

"As I was the first to draw attention in your periodical to the great value of the glycerines of carbolic acid and tannin in the treatment of uterine cancer, I trust you will allow me to make one or two observations on the cases published by my friend Mr. Edwards, in which death with symptoms of uræmia is attributed to the absorption of carbolic acid.

"The cases require serious consideration, and if it be true that the use of carbolic acid in this manner 'may involve such serious results as acute and fatal nephritis and uræmia,' as you observe in your editorial note, it will behove us to be most circumspect in employing the remedy.

"This method of treatment is, however, of such unquestionable value, not only in destroying fœtor, but, as I believe, in diminishing hæmorrhage, and in checking the progress of the disease, that I feel most unwilling to abandon it without the clearest evidence that the supposed evil consequences can fairly be traced to its use. This, I venture to think, can scarcely be found in the narratives supplied by Mr. Edwards.

"The radical defect in them is the absence of post-mortem investigations as to the cause of death. Without this, how are we to know that the uræmia was not due to the extension of the malignant deposit to the bladder, and subsequent occlusion of the ureters? This is far from an uncommon occurrence in uterine cancer. It is specially mentioned as one of the terminations of the disease by Churchill; and illustrative cases, very similar in their history to Mr. Edwards', have been published by Dr. Bentley and others. Independently of this probable source of the occurrence, the first of the two cases is, I believe, entirely put out of court by the fact that the urine is stated to have been from the first 'highly albuminous,' and that for some time previous to death anasarca is noted to have existed.

"Surely, in this instance, it is a much more probable hypothesis that the uræmic symptoms arose from the same causes that gave rise to the albuminuria.

"It is, of course, only a negative argument to say that I have been in the habit of using the remedy pretty extensively in carcinoma without even witnessing anything suspicious. In one case I have used a stronger application than Mr. Edwards for more than a year and a half, with the effect of apparently throwing into abeyance a carcinoma that had previously been rapidly and steadily advancing. In many others I have used it for a longer or shorter time; but in none have I seen any troubles referrible to the kidneys.

"It is much more to the purpose to point out that in surgical practice, ever since Mr. Lister's method came into vogue, much stronger solutions of carbolic acid have been freely applied to all sorts of absorptive surfaces, wounds, stumps, compound fractures, and the like, and in no single instance, so far as I know, has any trouble arisen.

"Now the absorptive power of the vagina is very limited, and although it is probably different when the cervix is the seat of carcinoma, still it is not likely to take up more of the acid than a stump after amputation, or a severe lacerated wound.

"I plead, therefore, for a verdict of 'not proven,' and although I freely admit that the question is well worthy of careful attention, I do not think that we need abandon the use of so valuable an agent in the treatment of this painful disease, until some farther evidence as to its supposed evil consequences has been adduced."

[We did not intentionally represent Dr. Edwards' cases as *proving* anything. But they certainly do suggest a possible danger, which it is the more necessary to consider, since we *know* that carbolic acid—an eminently irritant substance—does pass out of the system by the kidneys.—ED. PRACTITIONER.]

STRYCHNIA IN EPILEPSY.—Dr. E. H. Brandt, of Oporto, sends us the following "observation":—"Master D——, aged 11 years, had been suffering from repeated attacks of epilepsy (*petit mal*) for about three years, after an attack of sunstroke. The real nature of the disease was unknown, and he had undergone various treatments. This child was brought to me in July 1868, thin and pale, but otherwise strong, and very active. As worms exist in 75 per cent. of the children in this country, and as he used to rub his nose and grind his teeth, I gave him santonine, which had the desired effect of removing several lumbrici. The fits still continued. I then began treating him for his fits, and gave him bromide of potassium, in which I persevered for three months with hardly any effect, doses increasing from 0·50 centigrammes to one gramme three times a day. His memory was slightly affected. I then tried him with subcutaneous injections of Squire's bimeconate of morphia, dose quarter of a grain: this had a decided effect at first, but it soon became inert. He then took lactate of zinc with belladonna for two months: no effect on the fits; his general health improved, and he went to Lisbon for a change. He was there advised to take iron and quinine, which did not agree. On his return I gave the valerianate of atropine without the slightest improvement. I was much perplexed and discouraged, when I received your June, 1869, *Practitioner*, wherein I saw that strychnia had been given with success. I tried it at once, in doses of $\frac{1}{32}$ grain three times a day. The following day the fits were much worse, and more frequent; the second day less fits than he had had for three years; on the third day one fit only, which was the last until now. Three months have elapsed without a single fit; his general health is much improved, and his intelligence is not in the least affected. Could nine doses of $\frac{1}{32}$ grain produce such a miracle?"

Dr. S. A. Bindley, of Edgbaston, Birmingham, sent us the following, too late for notice in our November number:—"Will you kindly inform me, in your forthcoming number for November, if not too late, where I can find the researches of Pellikan and Kölliker, referred to in the review of recent works on therapeutics in the July, 1869, No. of the *British and Foreign*, p. 7; also those of Cunze on Arsenic; and whether a translation or summary in English has been given in any of our journals?

"Would it be troubling you too much to say also which is the *accepted* mode of action of saline aperients—the last one as given by Dr. Ringer in his recently published 'Handbook,' and adopted from Buchheim, or are we to accept the experiments on dogs of Dr. Headland as decisive on this question? According to the former, owing to their very low diffusive power, they are not absorbed in the stomach and bowels, but act as purgatives by retaining in the intestines the water in which they are dissolved, and also that which they meet with there, and that they do not act in any other way. But Dr. Headland shows, or attempts to show, that, if sufficient time be given, they are absorbed in the stomach and upper bowels, and are afterwards excreted from the blood into the lower bowels, and in *this* way act as purgatives."

[Kölliker's researches are to be found in Virchow's *Archiv*, 1856; *Transactions of Würzburg Med. Soc.*, vol. viii.; *Med. Central. Zeit*, 1858. Pellikan's researches are in the *Prag. Viert. Jahrsch.* 1856. Cunze's researches on arsenic are in Henle and Pfeuffer's *Zeitsch.* 1860.

As to the action of saline aperients we cannot exactly say that either of the two theories mentioned is established by anything like universal opinion. Our own opinion leans strongly to the view of *absorption previous to action.*—Ed. Practitioner.]

In answer to F. J. W. we may say that Dr. Ringer probably derived his statements about arsenic in cholera from Dr. Black, of Chesterfield (*Provincial Med. Assoc. Journ.*, 1854; *Lancet*, 1857). Whether he places any value on the well-known evidence of homœopathic writers to the same effect, we do not know.

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[1] Any of the foreign works may be procured by application to Williams & Norgate, of Henrietta Street, Covent Garden, W.C. ; or Messrs. Dulau, of Soho Square, W.C.

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